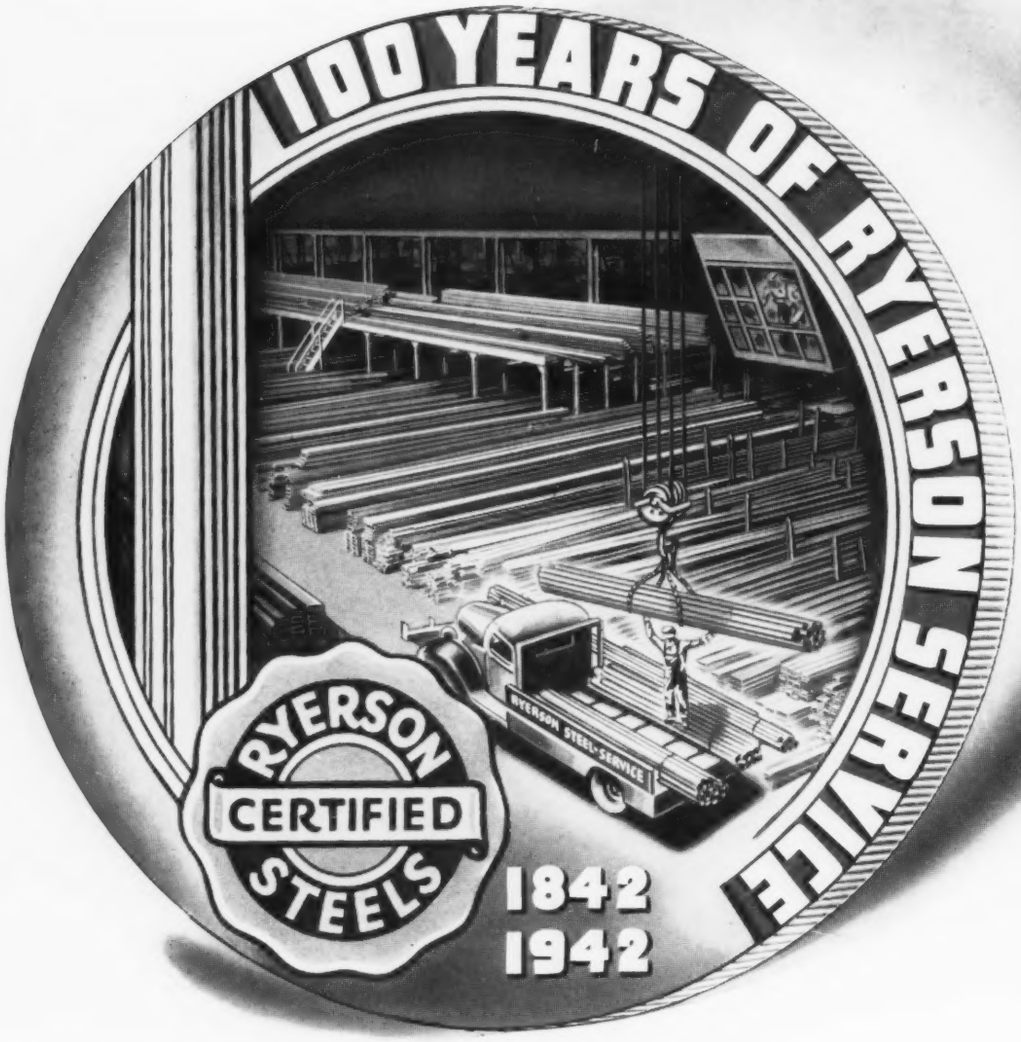
Textile World

OCTOBER, 1942

"GIRDLES" AND "SANDALS" FOR TIRES

SEE FEATURE ARTICLE



A century of service—through peace and war—in good times and bad—Ryerson has served the textile industries of America. Ten Ryerson plants are strategically located for prompt, dependable steel-service. Our steel stocks, which normally contain over 11,000 different kinds, shapes and sizes, have been greatly reduced by the demands of the war. However, our remaining stocks are offered in accordance with the Government Priority Plan. We are always glad to work with you and offer our help in the most effective application and fabrication of all steel products.

PARTIAL LIST OF RYERSON STEELS

Bars—Plates
Structurals
Sheets—Strip
Alloy and Tool Steels
Stainless Steel Tubing
Reinforcing Bars
Welding Rod

JOSEPH T. RYERSON & SON, INC., CHICAGO, MILWAUKEE, ST. LOUIS, DETROIT, CINCINNATI, CLEVELAND, BUFFALO, BOSTON, PHILADELPHIA, JERSEY CITY

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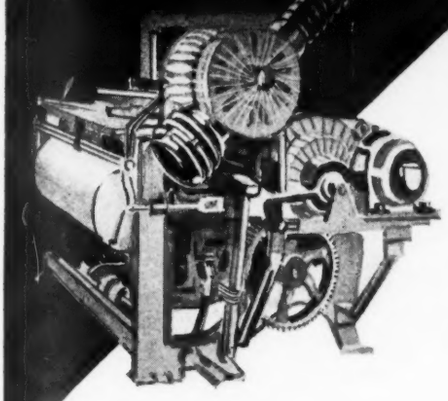
A GOOD BOBBIN IS A MIGHTY WEAPON

In Your Battle for Good Weaving



The call for Quality Draper Bobbins has reached Unprecedented Heights

It has pushed our Bobbin Plant to the Greatest Volume of Bobbin Output in our history

This has called for Supreme Effort on our part to locate Sources of Supply and Acquire Stocks of Quality Woods needed to maintain the High Standard of Draper Bobbins

It would be well for you to Give Special Attention to preserving the Life of your Bobbins ❖ Often carelessly handled in the past — they are now a Precious Means of Maintaining Quality in the Fabrics you must make for our Armed Forces

DRAPER CORPORATION

Hopedale Massachusetts

Atlanta Georgia Spartanburg S C

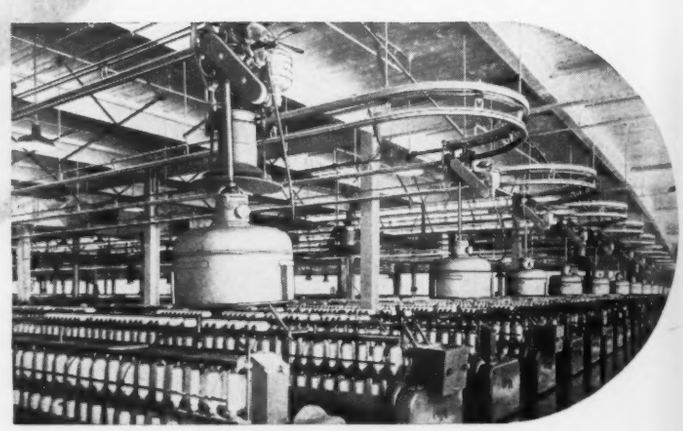
Controlled Cyclonic Cleaning

KEEPS MACHINES PRODUCING FULL TIME

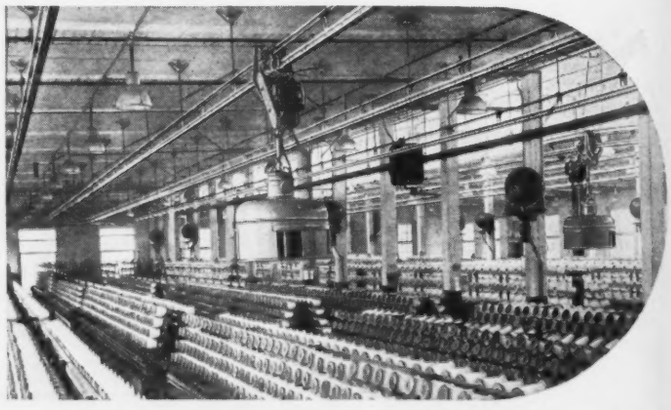
Swirling Column of Air Prevents Lint Accumulation with no Damage to Roving

NOW more than ever before it is necessary to keep machines going at top speeds. There is no lost production when American MonoRail Automatic Overhead Cleaners are at work over spinning, winding, twisting and warping machinery. Automatic cleaning keeps machines producing full time, enables operators to increase their output and reduces the number of gouts or bunches in the yarn.

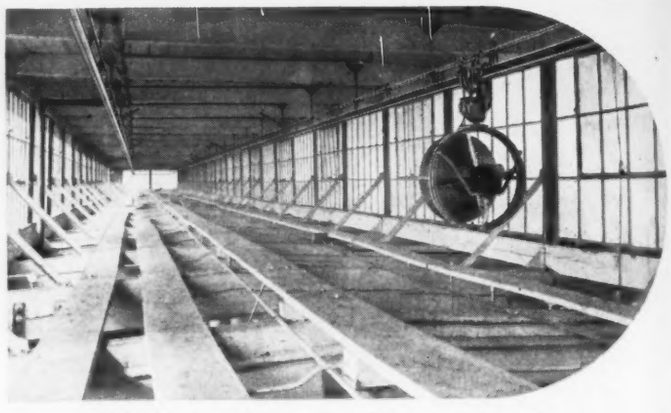
Let an American MonoRail Engineer explain such advantages as better running work; fewer gouts or bunches; less endsdown; spinners handle more sides; lower cleaning costs; no lost production and reduced machine stoppage. This information will be gladly given without cost or obligation on your part. Write us today; we will immediately send you copy of book describing Automatic Cleaning and Overhead Handling in the Textile Industry.



★ Overhead automatic cleaners over long draft spinning frames.



★ Swirling columns of air circulate around cones to prevent lint accumulation.

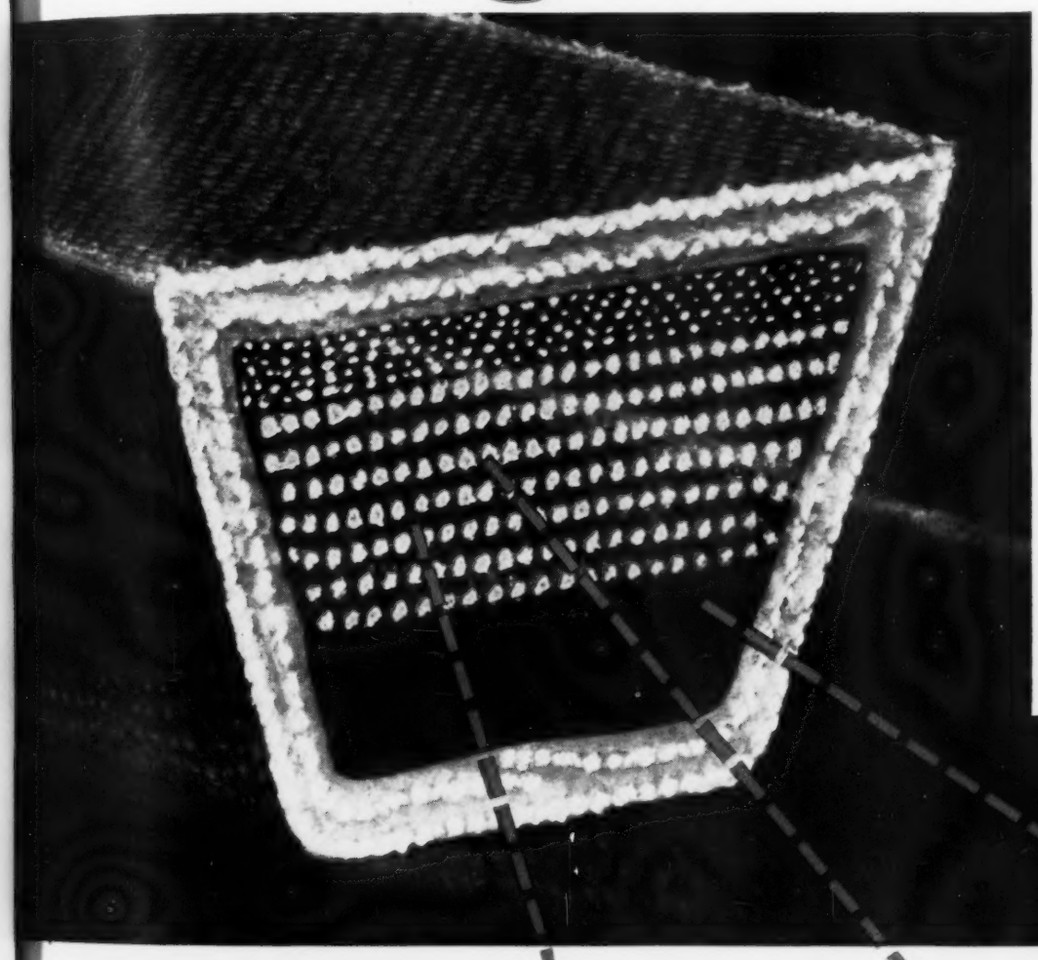


★ High volocity fan travels within the monitor to keep this section clean.

THE AMERICAN MONORAIL CO.

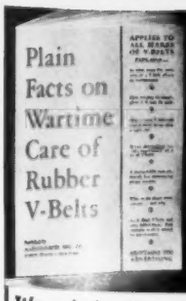
13108 ATHENS AVENUE — CLEVELAND, OHIO

X-Ray of IDEAS FOR Longer Wear



Here's the Inside of a Texrope Super-7... America's newest and most Advanced V-belt. Note the new Ways longer Life is Built right into it... for they Point to Ways *you* can Add to the Life and wartime Efficiency of your V-belts... whatever "Make" you may Use!

V-Day needs every V-Belt



FREE! Every engineer should have it in his technical library!

It's packed with vital facts on care of *all* makes of V-belts — contains no advertising. Send in for it *today!*

50% STRONGER CORDS produced by the new Flexon process combat stretching. **You** can fight stretching—and the slip and heating that result—by promptly taking up any slack in your drives. Remember, V-belts working round the clock need inspection *4 times as often* as in peacetime!

20% MORE CORDS than before help protect the new Texrope Super-7 against strains and breaks. **You** can minimize breaks in your plant—whatever "make" of V-belts you use—by requiring that V-belts *never* be pried into grooves. Good rule for cutting down internal injuries!

NEW COOLER-RUNNING CUSHION of special rubber "eases" Texrope Super-7 cords around sheaves — for smoother flexing and less heat. **You** can fight heat by preventing misalignment. It causes rubbing of belt sides. So keep sheave grooves in line — shafts parallel.

☛ *When you do Need new V-belts, invest in the Best . . . Texrope Super-7!*

A 1544

ALLIS-CHALMERS

WE WORK FOR VICTORY — WE PLAN FOR PEACE

TEXROPE* SUPER-7 V-BELTS

*Trade mark registered U. S. Patent Office. Texrope Super-7 V-Belts are the result of the cooperative research and design genius of two great companies — Allis-Chalmers and B. F. Goodrich — and are sold exclusively by Allis-Chalmers. Available in all sizes ..... ½ h.p. to 2,000 h.p.

Japanese Scrap

Comments by Henry G. Lord

The nation-wide campaign to salvage scrap iron and other metals for our vital war needs naturally suggests that the Japs beat us to it and had been cleaning up our scrap piles for a number of years before Pearl Harbor.

You can get into a nice "scrap" with almost anybody today if you start a discussion about who's to blame. I did.

And that reminded me that years ago I may have unwittingly been instrumental in putting the Japs in the way of securing a big lot of potential scrap.

Back in 1919, in World War Number One, there was a great boom in cotton manufacture all over the world; every spindle that could turn, and some that wouldn't turn, were pressed into service. The machinery builders couldn't begin to take care of orders for new equipment and those who couldn't wait began bidding for old mills. We were swamped with inquiries about available mills.

Among the most eager purchasers were the Japanese. They bought eight mills altogether. The machinery was taken down, packed and shipped to Japan.

There was one amusing case: A Japanese walked into my office one day and said he wanted to buy a cotton mill. I asked him what kind of a cotton mill he wanted—a yarn mill or a cloth mill; and what did he want to make?

He said it didn't matter what kind of a mill it was, except that he wanted to get the biggest mill he could for $800,000. He didn't know anything about cotton mills, but was an agent who had been commissioned to buy a mill and his firm would sell it to some cotton manufacturer when they got the machinery to Japan. I told him I didn't have an $800,000 mill on hand that day, but would make some inquiries.

A few days later, I was trout-fishing with Webster Knight, on the Queen River in Rhode Island, and while we were eating our luncheon, I said to him, "Colonel, would you sell your Readville Mill for a good price?" He said that he didn't want to sell it; that it was running full and making good money under prevailing conditions. Finally, I said, "Well, I suppose there *is* a price at which you would sell. This boom won't last forever and the Readville Mill is an old-timer." He thought for a while and then he named a price which he thought would end the matter—and so did I.

The Jap came in Monday morning. I told him that I had learned of a 20,000 spindle mill he might be able to buy. I said I had never been in the mill, but it was very old and he would have to pay a much higher price than it was worth under ordinary circumstances; and I named the price. "I will take it," he said. "Call up the man and tell him." Then he took out of his pocket a certified check for $50,000 to show me that he had the money to bind the bargain. And he hadn't even *seen* the mill.

Of course, he saw the mill later and I persuaded him to get an engineer's report. In spite of that, the deal went through and eventually the machinery was taken down, packed and I presume it reached Japan. I never heard. Now it occurs to me they may have wanted it for scrap. And I don't feel so sorry for that Jap now as I used to.

I wouldn't blame you if you don't believe this story; but it's true and I could prove it if the Knight brothers were alive. There were other very amusing circumstances connected with the transaction;—but I have come to the end of "My Page."

HENRY G. LORD, *founder of Textile World and president, Bragdon, Lord & Nagle Division, McGraw-Hill Publishing Co.*

UP GOES THE AMERICAN ENGINEER!

★ As the war goes on, the American engineer looks better and better. He has done some resoundingly important things, that may even dictate the future of the world.

He is an old friend of ours and we are glad to see him the center of admiration. For nearly 30 years we have worked with him adapting laminated plastic material to electrical insulation, mechanical and chemical uses.

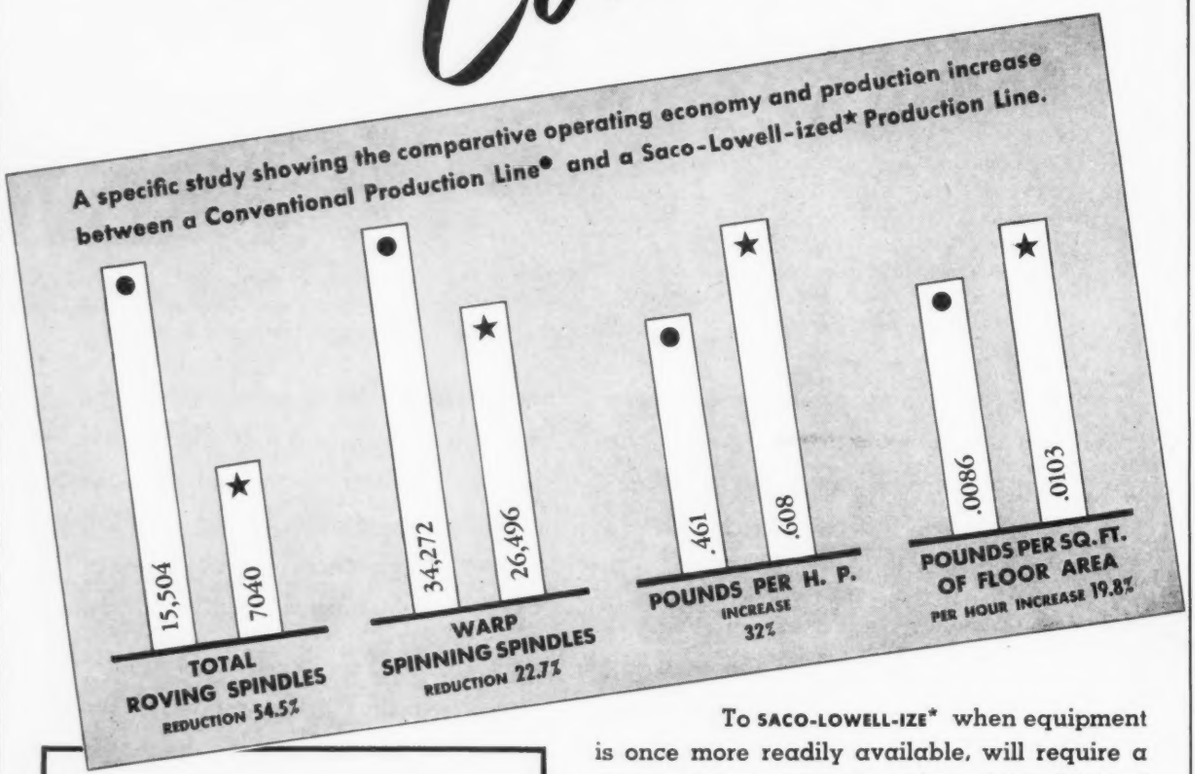
Together we have produced better airplane pulleys and machined parts, better instrument panels, better insulation for ignition, radio and all types of electrical circuits, better rayon equipment and plating parts.

Now, in war, we are doing together things we didn't know how to do before, but which will be available and valuable when the last gun has been silenced.

FORMICA
INSULATION COMPANY
4653 SPRING GROVE AVENUE
CINCINNATI, OHIO

FOR THE MOST MODERN AND EFFICIENT PRODUCTION LINE FROM OPENING THROUGH SPINNING *

Saco-Lowell-ize



*To utilize floor space so as to achieve the ideal in continuity of production; to coordinate all successive steps in processing; to reduce waste, spoilage and useless transportation of stock; and to attain the greatest economy in maintenance and operating costs.

To SACO-LOWELL-IZE* when equipment is once more readily available, will require a preparatory program based on data obtained from studies which should be completed at this time.

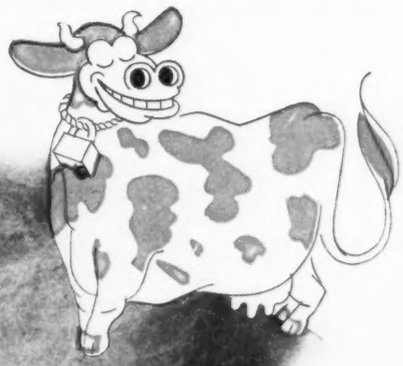
This preliminary fact-finding study will not interfere with production . . . and can be a joint project carried on with your own staff in cooperation with Saco-Lowell engineers.

Mills interested in SACO-LOWELL-IZING their plant to meet conditions in the postwar era are urged to begin their planning at once. Do not wait for "V" day.

SACO-LOWELL SHOPS 60 Batterymarch St., Boston, Massachusetts
Charlotte, N.C. Greenville, S.C. Atlanta, Ga.

HOW TO DYE ARALAC

the new textile fiber that comes from Cow's Milk



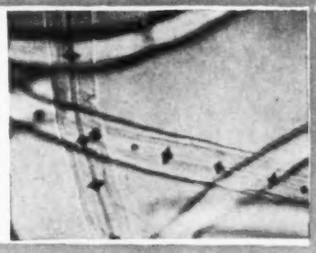
ARALAC, the recently developed protein fiber made from casein, is now being eyed with new interest by the textile industry.

Already ARALAC is being employed widely and satisfactorily in mixtures with wool, cotton, rayon, acetate, nylon, fur, in the manufacture of materials for coatings, suitings, dresses, neckties, scarfs, socks, interlinings, blankets, hats. And many other uses are in sight.

For some years now, CALCO technicians have been studying the application of dyestuff to this protein fiber, have been working to devise methods that bring about best results in dyeing and finishing operations.

Based on this extensive research, CALCO has prepared for your guidance and help a comprehensive and authoritative booklet, "The Processing of ARALAC And Other Protein Fibers." This valuable addition to your up-to-the-minute textile library will be sent you with our compliments, upon request.

Simple Microscopic Test Shows Presence of **ARALAC**



A simple and accurate microscopic test will aid you greatly in determining the presence of ARALAC. This test depends for its success upon the formation of diamond shaped stress figures (see illustration above) which incidentally somewhat resemble the shape of the CALCO trademark. These are formed when 50% sulphuric acid is allowed to flow around the fibers on a glass slide with a cover glass. The diamonds generally appear irregularly for a short time along the fibers, then change form and disappear as the fibers become soft.

CALCO CHEMICAL DIVISION
AMERICAN CYANAMID COMPANY

Bound Brook, New Jersey

Boston · Philadelphia · Providence · New York · Charlotte · Chicago

There's no time to lose
There's just time to WIN

Calco

"THEY" TOLD US NOT TO SELL SO MUCH TEXTILE MACHINERY

Confidentially, we would rather help to win the war, anyway

It would be fine if we could tell you how our great factory buildings have been converted to the war program, and the interesting things that we are doing here.

Some day we hope to spin the yarn.

Meanwhile, our research and experimental departments are busy. When peace comes, better Whitin textile machinery will be available than ever before.

P.S. We expect to continue to furnish repair parts needed to maintain Whitin machinery at top notch efficiency.

WHITIN MACHINE WORKS

Whitinsville, Massachusetts, U. S. A.

Charlotte, N. C. Atlanta, Ga.

NOT TOO LITTLE

NOT TOO LATE

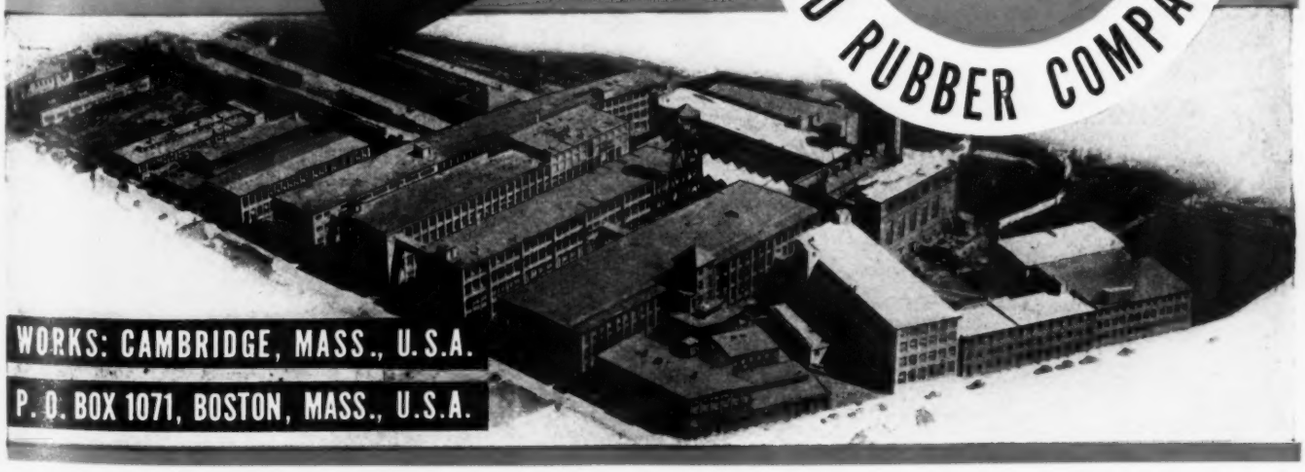
RUBBER manufacture today is measured in terms of human safety, human liberty and human life.

Towards these demands it must do its duty first with all the means in its power. It must meet every demand on it that will help to win the war. Only as its primary duty permits can it hope to serve your customary purchase requirements.

If there are inconveniences and shortages remember that rubber is a war essential. It is fighting for us all and no one will want the supply for this purpose to be too little or too late.

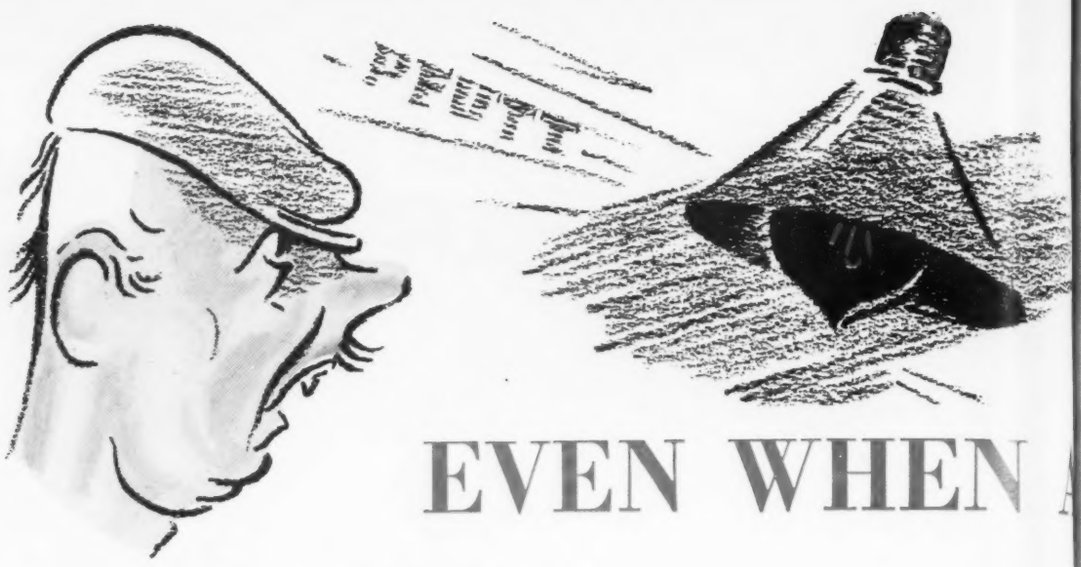
BOSTON WOVEN HOSE AND RUBBER COMPANY

BWH



WORKS: CAMBRIDGE, MASS., U.S.A.

P. O. BOX 1071, BOSTON, MASS., U.S.A.

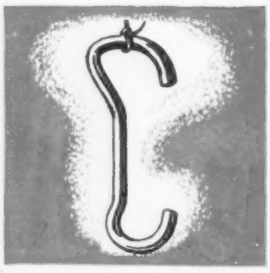


EVEN WHEN

Old Bill blamed the *blank-blankety blank* RING TRAVELERS!

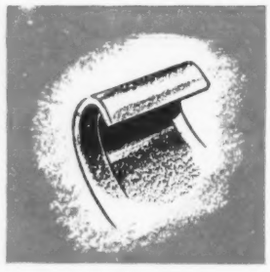
THE NE-BOW

Prevents yarn ends flying out, provides ample head-room for threading — prevents binding on ring. Note "bend inward" at top of horn.



PERFECT BALANCE

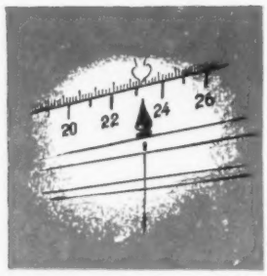
Weighs same on both sides. Straight part of shank is in center of gravity. Distributes lubricant and wears evenly. Will not pivot twisting self and rayon.



THE BEVEL EDGE

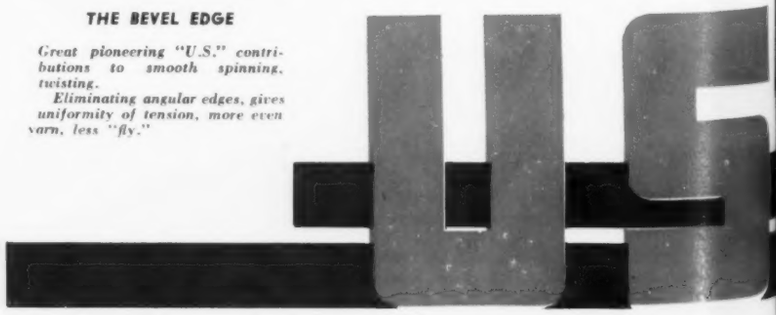
Great pioneering "U.S." contributions to smooth spinning, twisting.

Eliminating angular edges, gives uniformity of tension, more even yarn, less "fly."



HEAT CONTROL

for better metal—dominates "U. S." production! Carburizing and tempering ovens are electrically controlled through pyrometers — for better performance.



No. 2 OF A SERIES
BASED ON INTERVIEWS WITH TEXTILE MEN who want more production

Light Bulb BLEW...

LOTS of textile mills have an "Old Bill"—you know—the man who always worked with a certain make of spindle or Ring Traveler or other textile equipment, and can't get good results unless he has the kind he always used. Deprive him of one particular type of Ring Traveler and bango! Every time anything goes wrong he'll blame it on the Travelers. He wants his own brand. Nothing else will do. Anything else is going to be the goat, whatever happens.

"Old Bill" was all right in the old days . . . but today when you're running three shifts a day, and wish you could crowd six shifts into the same time—things are different!

If you're having Ring Traveler trouble, why not send for a U. S. Ring Traveler man? You may find that the blame doesn't lie with the Travelers at all! He may be able to show you where the trouble really lies—maybe in the ring—or in the weight of the Traveler or in a lot of other elements that influence performance of the Traveler itself.

The big point we want to get over is this—don't blame all Ring Travelers for Traveler troubles! Find out just how your production can be improved and your costs cut by U. S. Ring Travelers. Your mill may be busy as—, and you may not have a moment to spare, but a U. S. man will not cut into your production time. He won't take valuable men off the job. It won't cost you a cent to have this matter thoroughly looked into, in an intelligent way.

Remember this, that if you *do* buy U.S. Ring Travelers, you will get the product of years of specialization in this field, and a control of metallurgy and uniformity that you may not have realized.

Today we have developed the Ring Traveler to a point of perfection where it is a real *instrument of precision* in the textile field. It is, of course, only a small part of the other equipment in your mill, but it is a vital part, vitally influenced by a lot of factors over which it has no control. Therefore, you must have the best Traveler it is possible to produce—and you'll get it in U. S. Traveler.

You can't afford to go on buying Travelers because "you have always bought that same brand" or because somebody else in your line buys the same make or type. Today you need specialized products—and you will *get them* only from real specialists. Even "Old Bill" will be mighty interested in "U. S." cooperative service without obigation!

● *If you want "the same as you've always used" in Ring Travelers—you can get it from "U.S." If you want helpful advice on improved Traveler design or service—"U.S." can give you that, too.*

Sold

under these trade names

- Bowen Round Point Travelers
- Bowen Square Point Travelers
- Bowen Improved Vertical Bronze
- Bowen Patented Bevel Edge
- Bowen Flat Oval and Round Wire Travelers
- Bowen Patented No-Bow Vertical
- Bowen Patented Vertical Offset

U. S. RING TRAVELER COMPANY
PROVIDENCE, AMOS M. BOWEN, Pres. and Treas. RHODE ISLAND

Representatives:

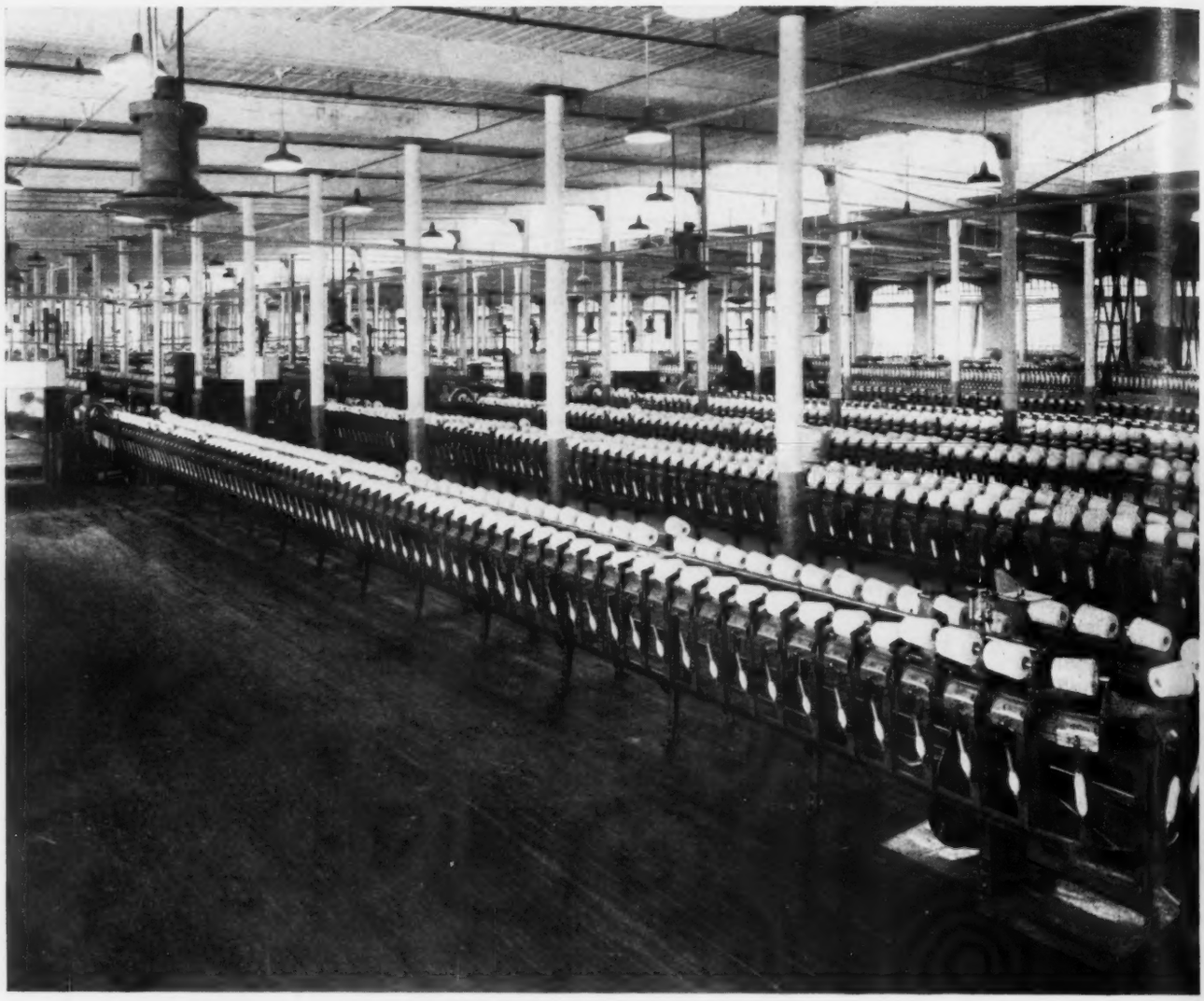
NEW ENGLAND	SOUTHERN		MID ATLANTIC
Carl W. Smith Herbert J. Smith both % U. S. Ring Traveler Co. P. O. Box 1187, Providence, R. I.	William P. Vaughan Oliver B. Land Terrence L. Maynard William H. Rose	P. O. Box 792 Greenville, S. C. P. O. Box 158 Athens, Georgia P. O. Box 456 Belmont, N. C. P. O. Box 792 Greenville, S. C.	M. Lee Bolton, P. O. Box 7234, Philadelphia, Pa.

RING TRAVELERS

A Traveler for Every Fibre

E TRAVELERS THAT KEEP GOING!

U.S. RING TRAVELER CO.



AUTOMATIC TRAVELING SPINDLE WINDING

KNITTING CONES ***DYE TUBES***
WARPING CONES ***TWISTING TUBES***

LABOR IS USUALLY REDUCED 65%

LARGE SAVINGS ALSO MADE IN HANDLING TO AND FROM WINDERS

BIG SIX POUND CHEESES IN TWISTER CREELS MAKE A FURTHER SAVING IN CREELING

AUTOMATIC WINDING IS NO LONGER A NOVELTY. IT IS STANDARD IN ALL PROGRESSIVE MILLS

LABOR FREED IN THE WINDING AND WARPING DEPARTMENT IS AVAILABLE FOR INCREASED PRODUCTION THROUGHOUT THE MILL

THIS EQUIPMENT IS MADE ONLY BY

ABBOTT MACHINE COMPANY

WILTON, N. H.

Southern Representative, L. S. Ligon, Greenville, S. C.

A control laboratory at a Cyanamid plant producing chemicals for textile industry.

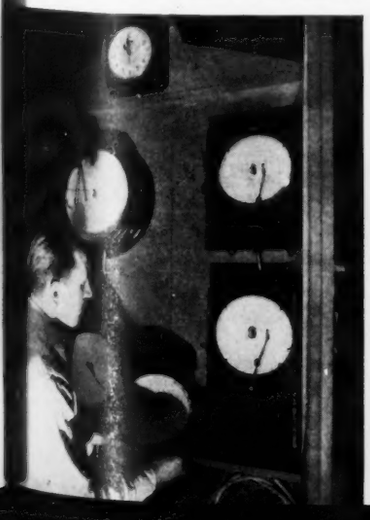
CYANAMID CONTROL

UNIFORM QUALITY PRODUCTION

TEXTILE INDUSTRY

At Cyanamid, CONTROL is much more than routine check-up during the manufacture of a chemical. While checking up in this way is, of course, vitally important to exercising the proper control for uniform high quality in a product . . . it is only part of the job. To gain the complete picture of the extent of Cyanamid control, it is necessary to go back to the raw materials from which Cyanamid chemicals are to be made. These, as well as the finished product, to be acceptable, are tested in the laboratory against high quality standards. Purification and conditioning of water supply . . . modernization of production equipment and methods . . . even the nature of packing and storage facilities are also carefully integrated parts of the broad system of accurate, dependable control of chemical production at Cyanamid.

This multiple control from raw material to finished product holds for Cyanamid's most commonplace, simply compounded types of chemicals as well as the more complex, delicately balanced compounds. This fact verifies the wisdom of relying upon one carefully controlled source of supply for *all* chemicals . . . sulphonated oils, penetrants, softeners, finishes, sizing compounds, wetting agents or other staples and specialties for uniform quality and economical textile processing.



Each step in chemical production at Cyanamid is automatically recorded by sensitive gauges for accurate check-up.

Water is essential to most chemical producing processes. Here is one of the large-capacity water purification units installed in a Cyanamid textile chemical producing plant.

SULPHONATED OILS; PENETRANTS; SOFTENERS; FINISHES; SIZING COMPOUNDS; DECERESOL* WETTING AGENTS

*REG. U. S. PAT. OFF.

AMERICAN CYANAMID & CHEMICAL CORPORATION

A UNIT OF AMERICAN CYANAMID COMPANY
30 ROCKEFELLER PLAZA · NEW YORK, N.Y.
DISTRICT OFFICES: 49 Federal Street, Boston, Mass.; 535 N. Broad Street, Philadelphia, Pa.; Bush Terminal Sales Building, 130 Seventh St., Brooklyn, N.Y.; 1108 Continental Bldg., Baltimore, Md.; 2223 Wilkinson Blvd., Charlotte, N. C.; 830 Leader Building, Cleveland, Ohio; 20 N. Wacker Drive, Chicago, Ill.; Miller Tower, Kalamazoo, Mich.; 2051 Fisher Bldg., Detroit, Mich.; 1028 Shell Building, St. Louis, Mo.; Russ Building, San Francisco, Calif.

WHILE YOU'RE WORRYING ABOUT PRODUCTION...

YOU AND YOUR MEN are working hard for production... driving to meet shipping dates. You know your machines are being "driven"—often by "green" help. Wouldn't you welcome aid in making sure *every* machine is properly taken care of with Correct Lubrication?

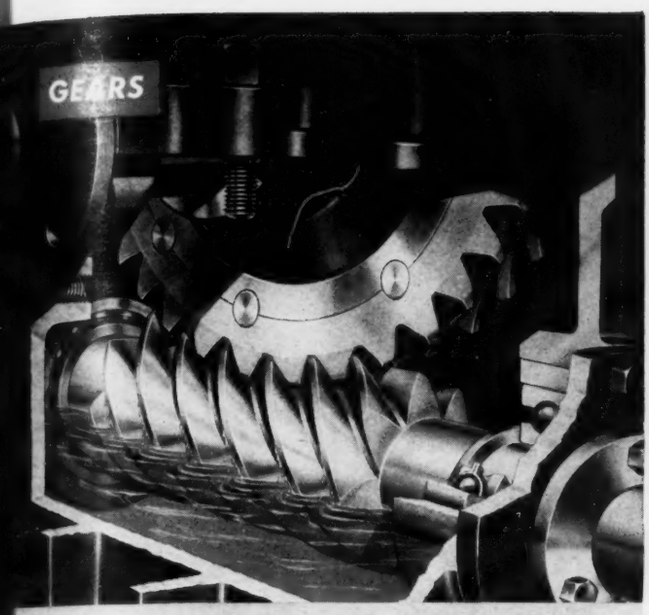
LOOKS SIMPLE—but size and type of bearing, speed, heat, load, method of application, all affect the choice of a lubricant. "Correct Lubrication" is a science! It demands skilled experience counsel.

Who's Looking Out

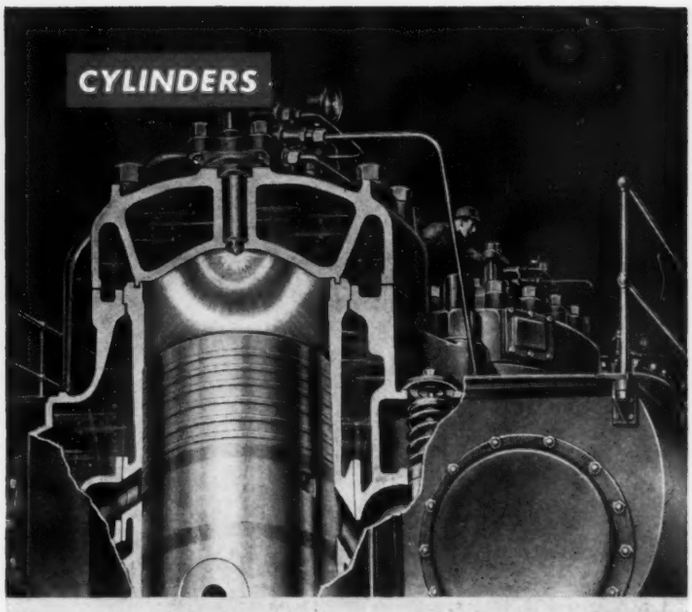
HERE'S A PLAN TAILOR-MADE FOR YOUR PLANT

THOSE TWO STEPS at the right bring you the sum of Socony-Vacuum's 76 years' experience, *the world's greatest*, in the lubrication field. Today, when there is no time for "second guesses" this knowledge is proving its value in helping industry do its biggest job!

1 LUBRICATION PLANNING—After careful study of your machines and their operating conditions, your Socony-Vacuum man will work out a guide of lubrication recommendations with your own engineers.



IRREPLACEABLE—Precision-made gears, in fact all production equipment, should be viewed as irreplaceable. This places an added burden on lubrication... emphasizes need for only the best!



DEPENDABLE POWER—The hum of your power plant is the heartbeat of your production line. Diesels, turbines, steam engines exist on "Correct Lubrication" as prescribed by a lubrication engineer.

for Your Machines?

2 LUBRICATION CONTROL—By means of this lubrication program... through the help of the Socony-Vacuum man... you will be freer to drive for more production. He will gladly help look out for your machines!

TO HELP MAINTAIN WARTIME PRODUCTION CALL IN

SOCONY-VACUUM

FOR *Correct Lubrication*

GARGOYLE Lubricants

SOCONY-VACUUM OIL CO., INC. • Standard Oil of N.Y. Div. • White Star Div. • Lubrite Div. • Chicago Div. White Eagle Div. • Wadhams Div. • Southeastern Div. (Baltimore) • Magnolia Petroleum Co. • General Petroleum Corp. of Calif.

L. F. Dommerich & Company

Executive and General Offices

271 MADISON AVENUE
NEW YORK, N. Y.

Telephone: AShland 4-8650

FACTORS

For Manufacturers and Merchants

Inquiries as to our services solicited

●

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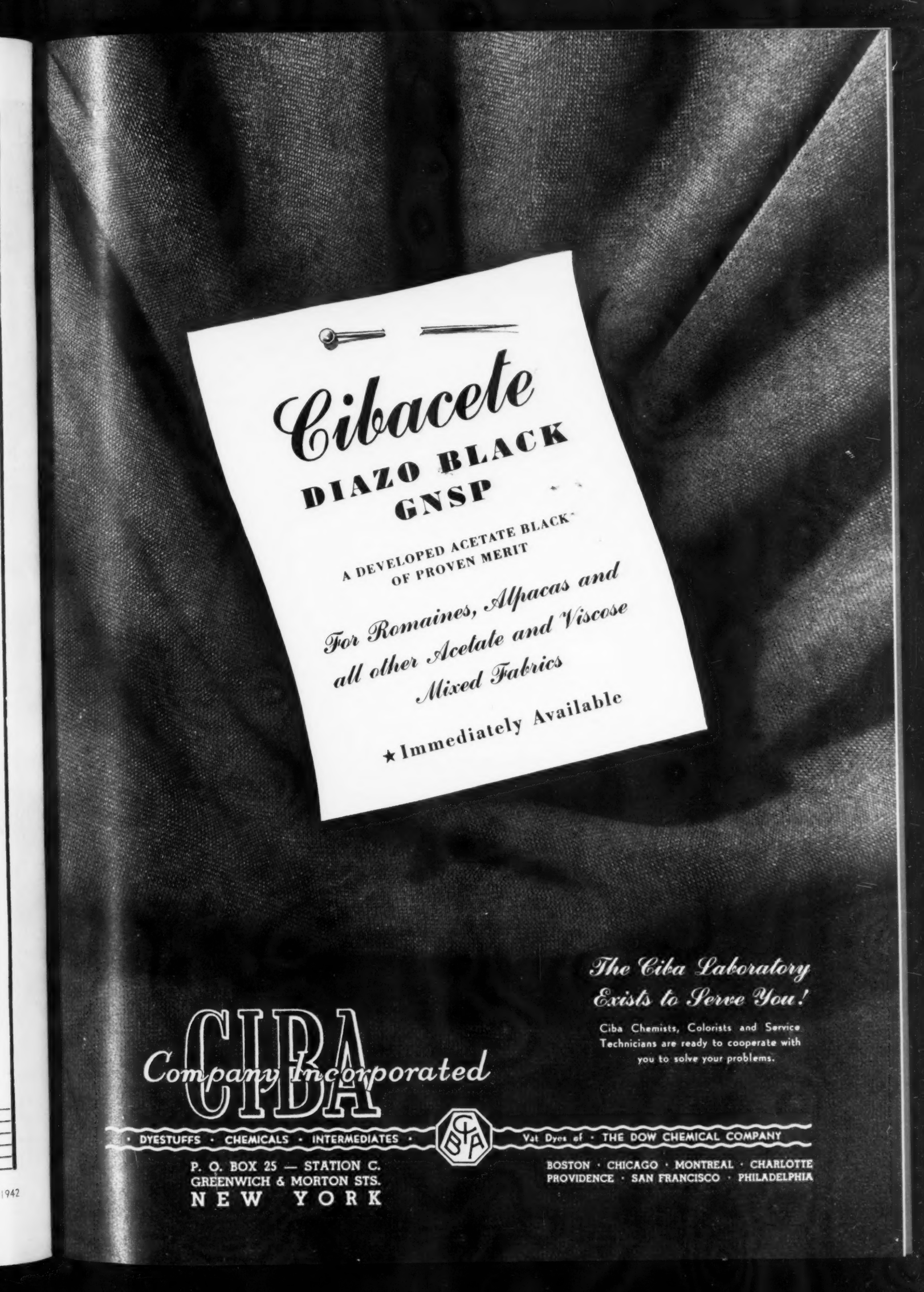
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GNSP
A DEVELOPED ACETATE BLACK
OF PROVEN MERIT
For Romaines, Alpacas and
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PROVIDENCE · SAN FRANCISCO · PHILADELPHIA

"for accomplishing more than seemed reasonable or possible a year ago"

THE Army-Navy Award for "high achievement in the production of war materiel" has been won by the "men and women of the Cramerton plant." In his letter of citation, Robert P. Patterson, Under Secretary of War, goes on to say: — "Your patriotism, as shown by your remarkable production record, is helping our country along the road to victory."

The story behind the winning of the coveted "E" dates back to 1930, when Cramerton assisted the Quartermaster Depot at Philadelphia in the development of the present Army Khaki, the official cotton uniform cloth. The first government order for this fabric was placed with Cramerton Mills. Ever since, Cramerton Army Cloth has been regularly furnished to the U. S. Army. Now Navy and Marine Corps officers wear it as well. This is by no means the only military fabric made by Cramerton, but its production has been a major objective for 12 years.

The management congratulates the people of Cramerton, whose efforts and skill have earned this high award, and pledges the continued concentration of the entire personnel on the task that lies ahead.

Cramerton Mills

CRAMERTON NORTH CAROLINA

Selling Agents: Galey & Lord, 57 Worth Street, New York City

Spinning the threads of Victory demands less time out for Trouble!

Turn to Cities Service for Precision Lubrication!

Breakdowns and delays are costly to you and deprive America of vital textile production.

Insure fast, flawless operation by turning to Cities Service for *all* your lubrication needs.

In laboratory and in factory, Cities Service engineers have perfected lubricating oils which are precisioned for practically every textile machine and almost every moving part.

Let Cities Service help keep *your* machines humming — for smooth and steady performance that spells peak production and big savings!

A Cities Service lubrication engineer will gladly consult with you — at no obligation. Call or write — now.

OIL IS AMMUNITION — USE IT WISELY!

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ONCE-ALWAYS

Write to —
CITIES SERVICE OIL COMPANY
Room 1326, Sixty Wall Tower, N. Y.

or any of the following offices:
CHICAGO . CLEVELAND . ST. PAUL
KANSAS CITY . BOSTON . TORONTO

or to
ARKANSAS FUEL OIL COMPANY
SHREVEPORT . ATLANTA . BIRMINGHAM

CITIES SERVICE TEXTILE LUBRICANTS

Include Glade Oils and Trojan Greases for:

Looms	Calender Rolls
Knitting Machines	Printing Machines
Beamers	Spinning Machines
Spoolers	Twisting Machines
Warpers	Winders, etc.

A LUBRICANT FOR EVERY INDUSTRIAL NEED

New Method for Testing *Dimensional Restorability* of Rayon Fabrics!

Adopted by American Viscose Corporation to predict rayon fabric performance.

Testing machine in operation, using tension. Cloth sample is marked by use of template for accurate measurement before and after washing and pressing.

TESTING OF RAYON FABRICS is a major part of our 4-PLY SERVICE. One of the tests in which we are greatly interested is for *dimensional restorability*—the ability of a fabric to return to its original dimensions by normal handling methods.

The testing methods as outlined in Commercial Standards CS59-41 which have to do with shrinkage and stretch in the hand ironing procedure, while applicable to some textiles, do not in our opinion give sufficient information on consumer performance of rayon fabrics. Shrinkage is generally considered a *permanent* dimensional change. This is not true of rayons, which, when properly constructed and finished, are restored to their original dimensions by ordinary handling methods.

Because of this, we have adopted a testing method which has been proved by results to be the closest approach to the actual procedure employed in hand-ironing rayon fabrics.

The method we follow makes use of a Tension Pressing technique originated by the U. S. Testing Company. By using a sample of cloth cut to size by a template; a pressing plate, and various weights for warp and weft tensions, actual hand pressing operations are closely approximated.

The method is controlled, uniform, and scientific. To our way of thinking, it is the best way to predict the ability of rayon fabrics to return to their original dimensions, plus or minus 2 per cent.

Because many in the rayon industry will be interested in this testing method, we have prepared full descriptions of the machine used and the method followed. These will be sent to you FREE OF CHARGE upon your request. We think you will find the method an improvement.

HERE'S WHAT WE MEAN BY 4-PLY SERVICE

1. **FABRIC RESEARCH**—Helps you get the right yarns.
2. **FABRIC DEVELOPMENT**—Helps you design new fabrics.
3. **MILL TECHNIQUE**—Helps solve mill problems.
4. **SALES ASSISTANCE**—Helps sell serviceable fabrics.

AMERICAN VISCOSE CORPORATION

Producers of CROWN* *Rayon Yarns and Staple Fibers*

Sales Offices: New York, N. Y.; Charlotte, N. C.; Providence, R. I.; Philadelphia, Pa.

Plants: Marcus Hook, Pa.; Roanoke, Va.; Lewistown, Pa.; Nitro, W. Va.; Parkersburg, W. Va.; Meadville, Pa.; Front Royal, Va.

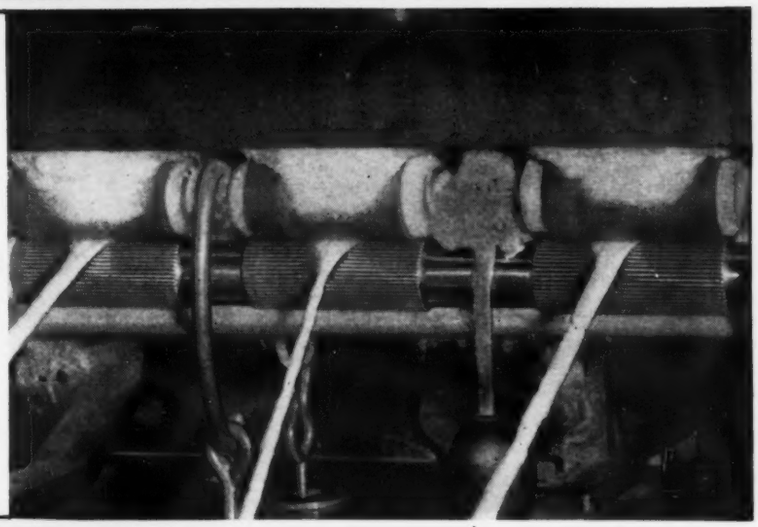
Copr. 1942—American Viscose Corp.

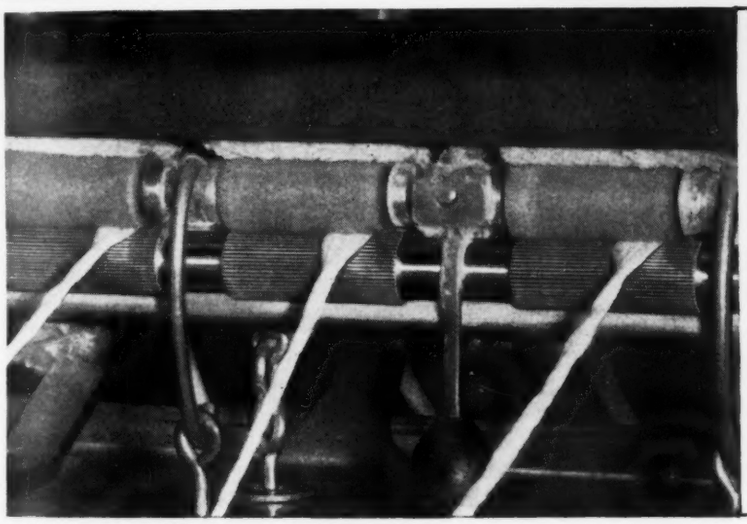
*Reg. U. S. Pat. Off.

How Armstrong's Cork Cots Prevent "Eyebrows"

HERE'S WHAT HAPPENS IF YOU DON'T USE CORK COTS

Lack of sufficient friction allows clearer waste to accumulate in front of the clearer boards, forming "eyebrows." Unless constantly removed, these waste accumulations drop into the work and form slubs or bunches in the yarn, thus lowering quality.





HERE'S WHAT HAPPENS WITH ARMSTRONG'S CORK COTS

Cork's high coefficient of friction places clearer waste well back on the clearer boards, where it belongs. The results—no eyebrowing, better yarn. What's more, cork's excellent drafting properties actually reduce the amount of clearer waste.

THESE two photographs were taken of the same frame—the only difference being the roll coverings. Rolls were allowed to run the same length of time after the boards had been cleaned. The difference in performance of the two types of roll coverings is shown—*Armstrong's Cork Cots have eliminated the eyebrow problem.* The same results have been achieved on spinning and roving frames in hundreds of mills that have switched to Armstrong's Cork Cots.

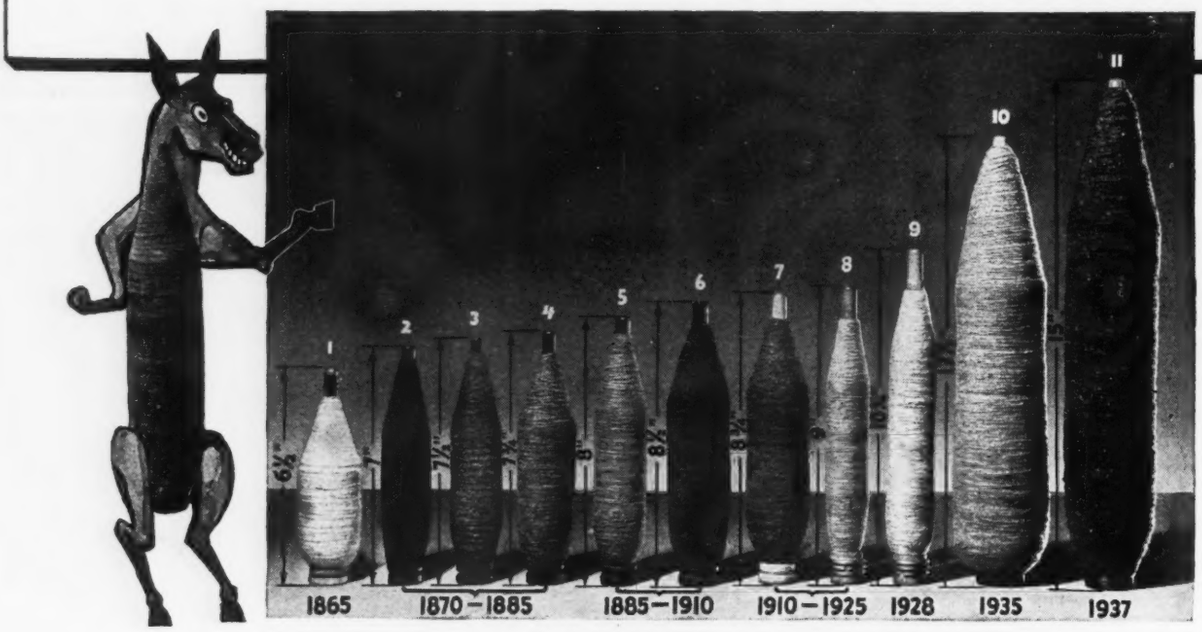
Other advantages which make these Cots the most popular of all roll coverings are cork's *resilience*, which helps them "come back" after being grooved by top roll laps or hard ends; cork's *resistance to lateral flow*, which helps maintain a true drafting surface and aids smooth Monday morning start-up; cork's *durability*, which gives Armstrong's Cork Cots long initial service life and permits each Cot to be rebuffed three or four times—its spinning surface made like new—for as little as ½¢ per rebuffing.

These are the reasons why Armstrong's Cork Cots are now serving ten million active spinning spindles in the United States—more spindles than are equipped with any other roll covering. Armstrong Cork Company, Textile Products Section, 927 Arch Street, Lancaster, Pennsylvania.

ARMSTRONG'S CORK COTS

ACCOTEX COTS · ACCOTEX APRONS

J&B GIANT PACKAGE MULE



WHY 69,430 SPINDLES HAVE BEEN SOLD

Mule spun wool yarns always have been and still are supreme in quality. Since the advent of the GIANT PACKAGE mule, warp yarns can also be produced MORE ECONOMICALLY on this machine than on frames, when ALL factors are considered, as the following figures demonstrate. Superior quality and greater economy then are the reasons why 69,430 GIANT PACKAGE mule spindles have been sold to date.

PRODUCTION PER OPERATOR (In a Well Known Woolen Mill)

SIZE OF YARN	GIANT PACKAGE MULE (2½" Gauge) 336 Spindles Per Operator		RING SPINNING FRAME 120 Spindles Per Operator	
	Lbs. in 8 Hours	Established Labor Cost Per Lb. @ 70¢ Per Hr.	Lbs. in 8 Hours	Established Labor Cost Per Lb. @ 60¢ Per Hr.
¾ Run	848	.006	368	.013
1⅝ Run	412	.013	175	.027
1¾ Run	272	.020	108	.044
4⅜ Run	128	.043	45	.106
H.P. Required	One 10 H.P. motor for 336 spindles.		One 20 H.P. motor for 120 spindles.	
Investment	50% of cost of frame.		Twice the cost of mule.	
Floor Space	This mule produces 2.3 times as much yarn as the frame in twice the floor space.			

THE GIANT PACKAGE MULE'S 6-POINT PROGRAM

Not only does the GIANT PACKAGE mule produce a better yarn at less cost, but it also effects economies in other operations besides spinning. Following is the complete 6-POINT PROGRAM that this machine offers:

1. 15% REDUCTION IN CARDING COST, as compared with other spinning methods, because it can handle a coarser roving.
2. 33⅓% SAVING IN FLOOR SPACE, due to increased production per spindle.
3. UP TO 69% MORE SPINNING PRODUCTION, because of the GIANT package, which runs at the same speed as the small package but holds up to 7¼ times more yarn and therefore requires less frequent doffing. The increase in production has been as much as 69% in some cases, but is usually about 33⅓%.
4. 54.5% REDUCTION IN SPOOLING TIME, because the GIANT package, being a larger supply, reduces doffing.
5. LOWER BURLING COSTS, due to less knots (as much as 60% reduction at times). Fabric quality improves for same reason.
6. A BETTER YARN because it's MULE SPUN. The mule principle produces a stronger, evener, more elastic, more lofty and truer diameter yarn than other methods of spinning. Furthermore this superior quality can be maintained indefinitely because of construction materials used in the machine and because of advanced machine design.

JOHNSON & BASSETT, INC.

J & B STANDARD PACKAGE MULE

20% to 40% More Efficient Than Old Models

Increases in efficiency of 20% to 40% have been effected in standard package mules for filling and for warp where short runs are involved, by increasing the size of the package, by the use of ball and roller bearings at important points, individually mounted spindles, a patented bunch builder for automatic shuttles (when required), saving 2c to 3c per lb. in rewinding costs, and many other improvements.

The following figures illustrate such efficiency as compared with the latest ring spinning equipment:

PRODUCTION PER EQUAL NUMBER OF SPINDLES (In a Well Known Woolen Mill)

SIZE OF YARN	ONE STANDARD PACKAGE MULE 2¼" Gauge—384 Spindles		FOUR RING SPINNING FRAMES 96 Spindles Each or a Total of 384 Spindles	
	Lbs. in 8 Hours	Labor Cost—1 Operator @ $3.54 per 100 lbs.	Lbs. in 8 Hours	Labor Cost— 4 Operators x 8 hrs. x 55¢
3 Run	240	$8.50	256	$17.60
H.P. Required	One 5 H.P. motor for 384 spindles.		Four 15 H.P. motors for 384 spindles.	
Investment	⅝ the cost of 1 frame.		See cost of mule.	
Floor Space	50% less than space for 4 frames.		See space for mule.	

MECHANICAL FEATURES

J & B Mules are backed by years of experience in building Spinning Machinery, with constant developments and changes to meet new conditions. Outstanding mechanical features of these mules are as follows:

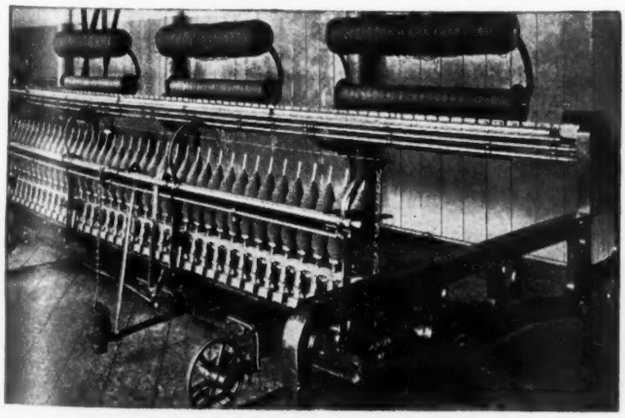
Each spindle mounted as a unit in a bolster attached to metal collar board.

"Durex" Collar Board Bushing.

Step Rail eliminated.

Lower Bearing a Ball Bearing.

Spindle Bearings permanently aligned, free running, with no variation and consequently more even yarn. Anti-Friction Ball and Roller Bearings in important locations. Modern, Improved Metals developed in recent mechanical research utilized in parts subjected to extra wear and strain.

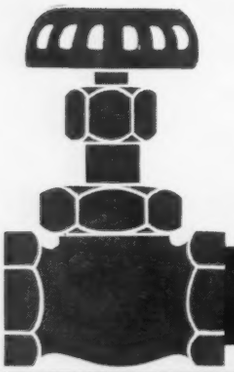


INDIVIDUALLY MOUNTED SPINDLE

This spindle is used in all our latest design mules (both GIANT PACKAGE and standard package) and can be applied to existing mules of old design. It is mounted in a bolster attached to a metal collar board and automatically adjusts itself to eccentric loads. It is permanently aligned and runs freely with minimum speed variation. 30 to 40 turns less twist for a given tensile strength are possible with this spindle.

WORCESTER, MASS.

CANADIAN REPRESENTATIVES
W. J. WESTAWAY CO., LTD., HAMILTON, ONTARIO



A Time-Saving Valve FOR THOSE ALL-IMPORTANT PRODUCTION LINES

In these critical times when uninterrupted production is all-important, every minute saved in maintenance means more productive hours.

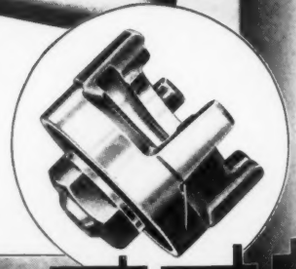
Lunkenheimer "N-M-D" (non-metallic disc) Valves cut maintenance time to the bone, because it's only a matter of minutes to renew a worn disc and keep the valve on the job.

Users of Lunkenheimer Valves are profiting from their wise policy of buying highest quality. They are getting continual tangible evidence of what really good valve performance means in dependable and low-cost service.

Since virtually all materials used in the manufacture of valves are on the list of critical materials, valve users are urged to furnish the highest possible preference ratings and proper "end use" Allocation Classification Symbols on their orders. This will be of mutual helpfulness.

Fig. 123
"N-M-D"
Non-metallic Disc
Easily Renewed

With a few spare disc holders complete with discs on hand, the time required for renewing can be cut to almost nothing.



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THE LUNKENHEIMER CO.
"QUALITY"
CINCINNATI, OHIO, U. S. A.
NEW YORK CHICAGO
BOSTON PHILADELPHIA
EXPORT DEPT. 318-322 HUDSON ST., NEW YORK

LUNKENHEIMER VALVES

NEW SPEED RECORDS

FOR

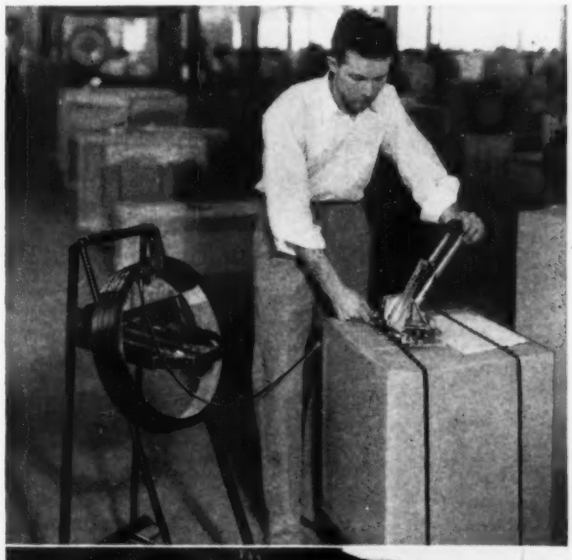
WAR SHIPMENTS

WITH

ACME STEEL PRODUCTS

FASTER PACKING AND SHIPPING WITH ACME STEELSTRAP

The war program needs textiles — in quantity and quickly! Acme Steeelstrap is helping textile mills meet those demands . . . by helping the packing room keep pace with production. Operators use Acme Steelstrappers, the fastest, automatically seal-fed strapping tools ever built – which tension, seal and cut the strap with two easy move ments. To further speed up the job, a handy coil holder or another Acme accessory is used — keeps strap and seals within easy, convenient reach. ***Acme Steelstrap meets all Federal strapping specifications.***



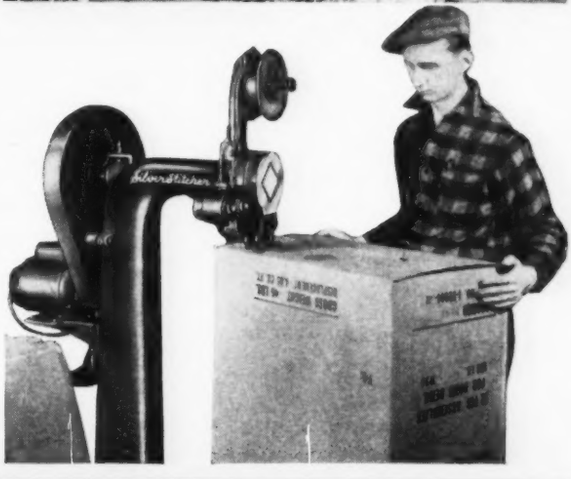
ACME BALE TIE BANDS HELP INCREASE CAR CAPACITY

Conserving loading capacity is vitally important today. Acme Bale Tie Bands . . . when used for baling . . . make possible the compressed type of bale which permits maximum utilization of valuable carloading space as well as increased warehousing facilities. Then too, tare weight is cut, thereby reducing shipping costs.

MORE SPEED TO BOX STITCHING WITH ACME SILVERSTITCHERS

Plants jammed with war orders move goods faster when aided by the new, low-cost Acme Silverstitchers. Besides greater speed, they assure important savings in material. Built to perform as a unit, Acme stitching wire and equipment assure stitching satisfaction. Acme Silverstitchers are furnished to meet any stitching requirement.

Acme Steelstrap, Bale Tie Bands and Silverstitchers can help you meet your war order requirements, too. Be sure to send for full details today. There is no obligation.



ACME STEEL COMPANY

ALSO BRANCHES AND SALES OFFICES IN OTHER PRINCIPAL CITIES

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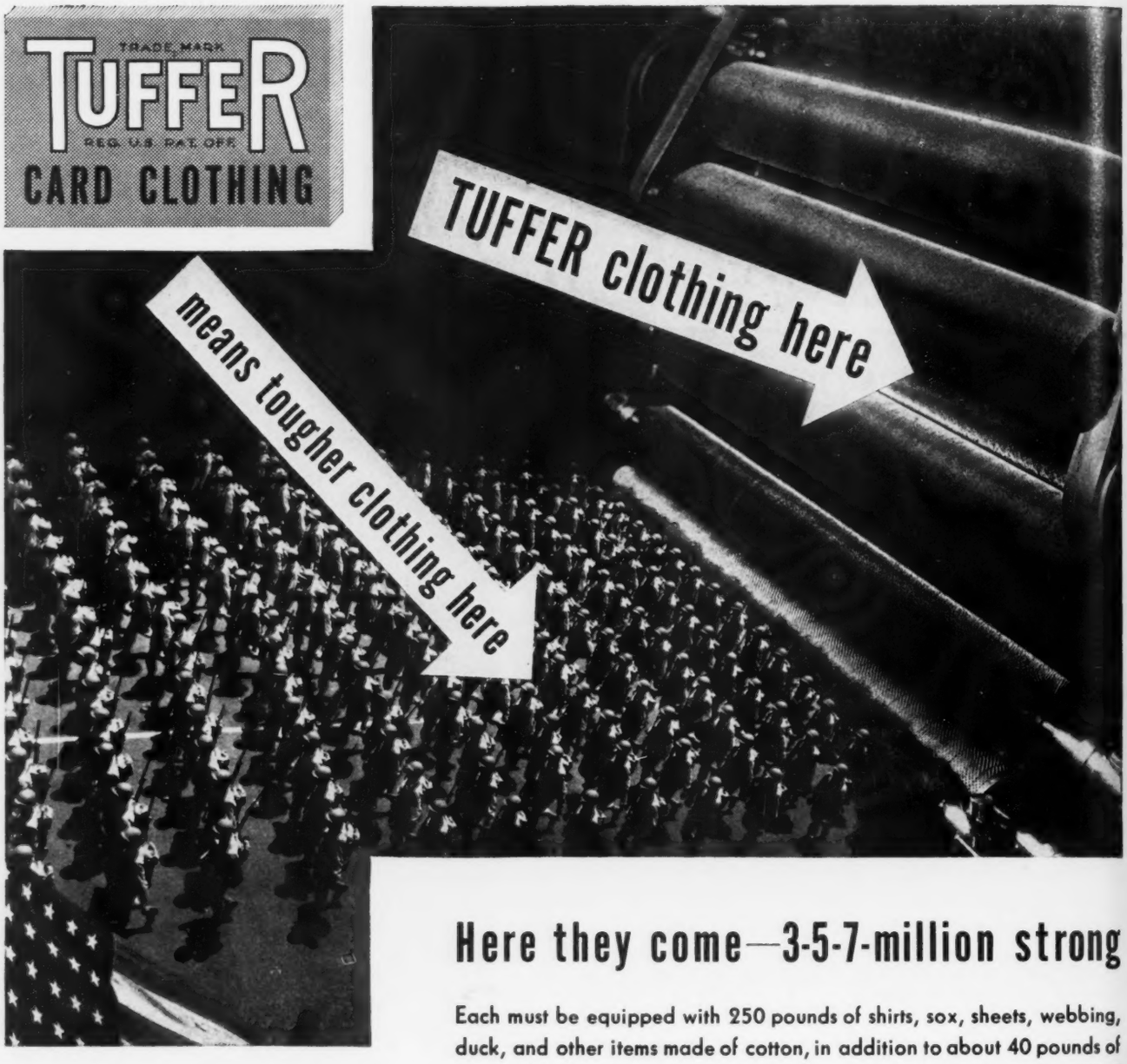
603 STEWART AVENUE, S. W., ATLANTA
146 SUMMER STREET, BOSTON
103 PARK AVENUE, NEW YORK

TRADE MARK

TUFFER

REG. U.S. PAT. OFF.

CARD CLOTHING



Here they come—3-5-7-million strong

Each must be equipped with 250 pounds of shirts, sox, sheets, webbing, duck, and other items made of cotton, in addition to about 40 pounds of suiting, blankets, overcoating, and other products made of wool. All of this material must be processed by card clothing. *This is the initial step.*

Add to this the quantities of work clothes needed by war workers—on top of other civilian needs, and you see the "licking" your card clothing is taking.

Under these conditions you will appreciate the smooth performance of Tufferized Card Clothing. The Tufferizing Process is our exclusive patented process for making a more accurate and uniform product. Carders everywhere tell us it stays on the job longer, gives more uniform carding with less waste, and results in a nice smooth finish to coarse or fine yarns.

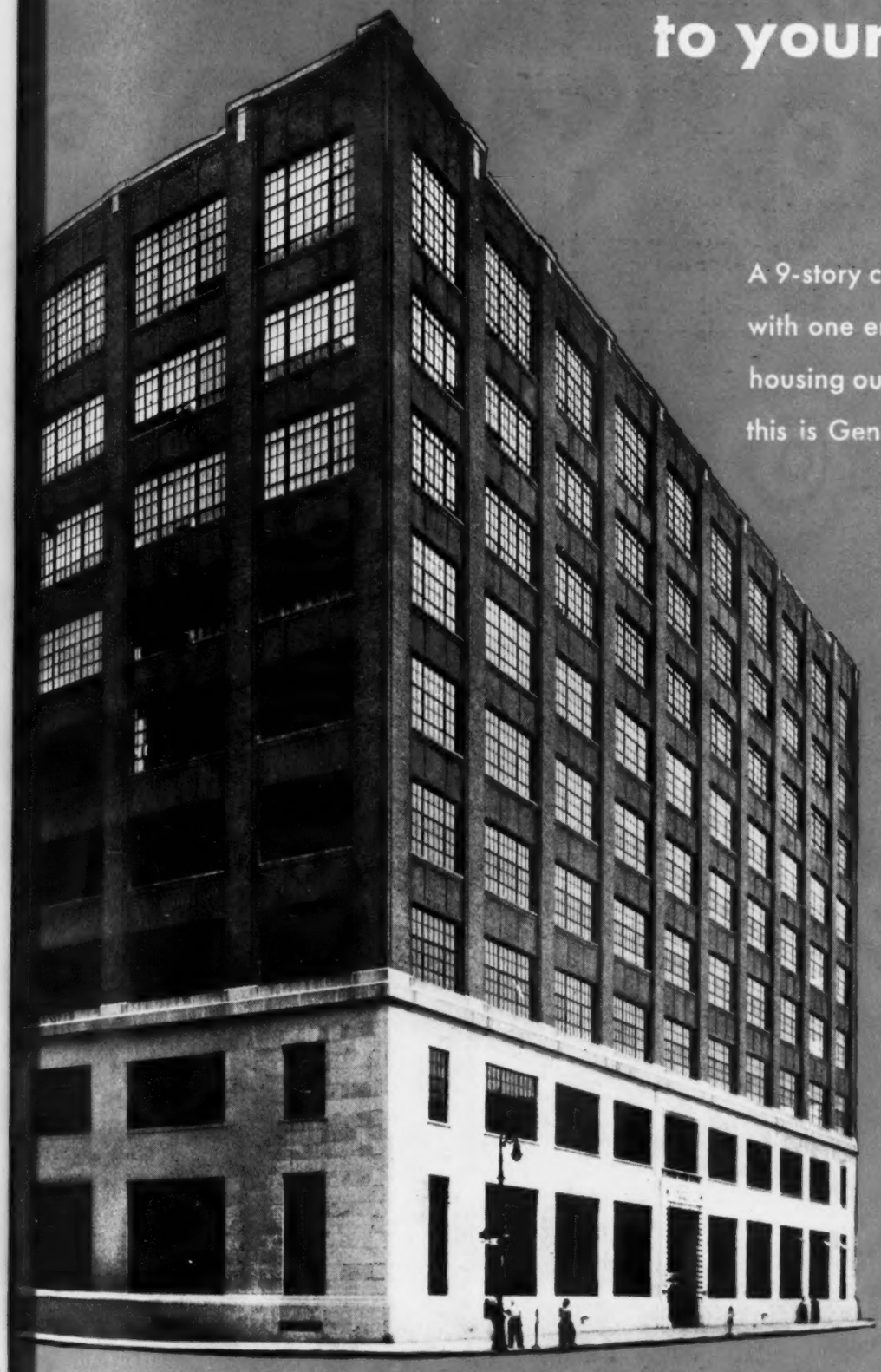
Card Clothing for Woolen, Worsted, Cotton, Asbestos and Silk Cards • Napper Clothing, Brush Clothing, Strickles, Emery Fillets. Top Flats Recovered and extra sets loaned at all plants. Lickerins and Garnet Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plant • Midgley Patented, and Howard's Special Hand Stripping Cards • Inserted Eye & Regular Wire Heddles

HOWARD BROS. MFG. CO.

WORCESTER, MASSACHUSETTS

Southern Plants: Atlanta, Ga., Gastonia, N. C. **Branch Offices:** Philadelphia, Dallas. **Canadian Agents:** Colwool Accessories, Ltd., Toronto 2

add twenty-five thousand square feet to your laboratory



A 9-story citadel of glass, brick and steel, with one entire floor, 25,000 square feet, housing our Technical Service Laboratory; this is General's New York headquarters.

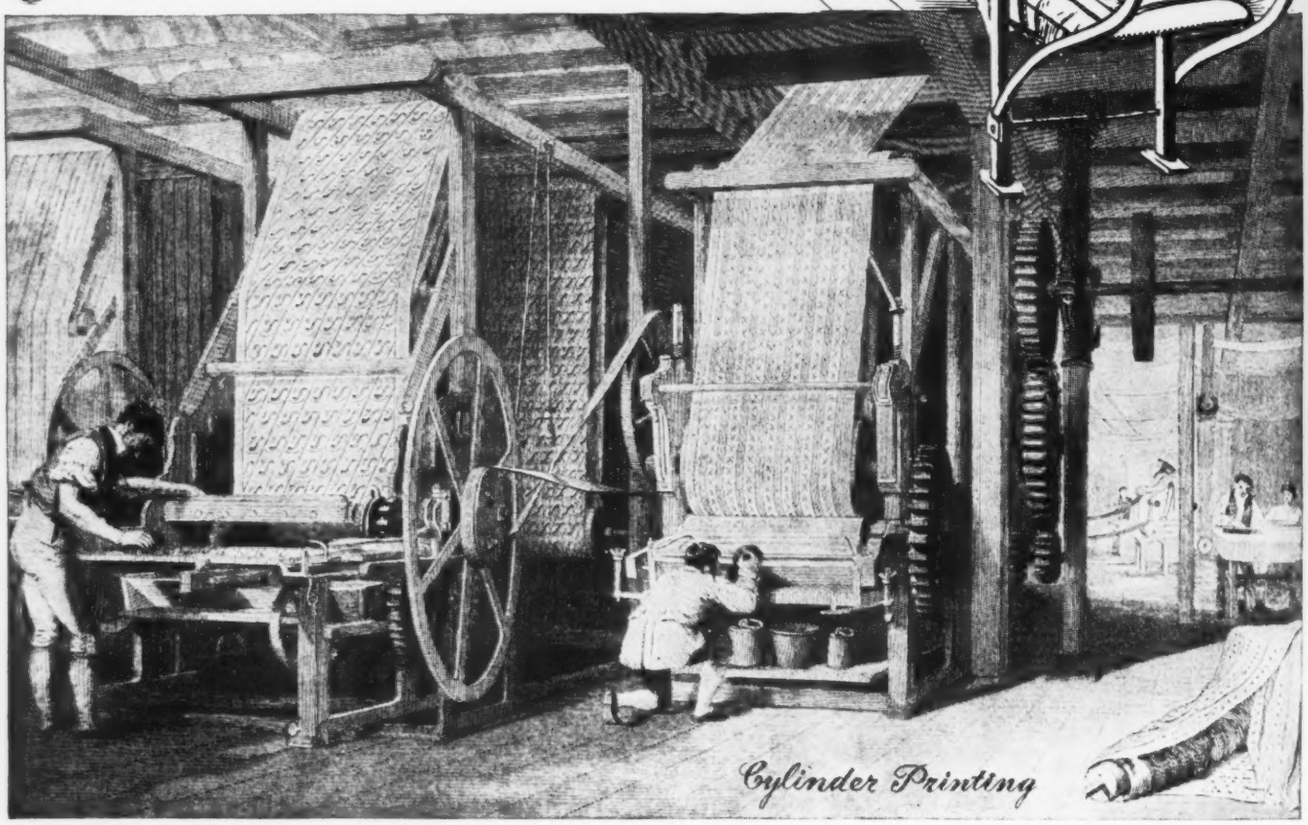
Here results don't just happen ...they are definitely brought about. There is no ceiling to the operations of our chemists. Processes are endless. Seed ideas planted in experiments yield a harvest of important findings. General invites you to amplify your present research facilities by annexing our Laboratory when you have a special problem. Clients like the way our chemists project their thinking and the suddenness with which they find the answers.

GENERAL DYESTUFF CORPORATION

FOUR-THIRTY-FIVE HUDSON STREET · NEW YORK CITY

Printers had to use Strong-Arm Methods

To print fabric, a design was first cut in a block, the surface of which was then applied to the color. By striking the block with a mallet the pattern was transferred to the cloth. This had to be repeated for each color and for each duplication of the design.



Cylinder Printing

THIS OLD, laborious method which had originated in China in the 9th century was far behind other phases of the textile industry which had progressed through the introduction of *continuous* operations. Printing took a step forward in 1785 when Thomas Bell developed cylinder printing and gave *continuous* movement to another step in textile manufacture.

He engraved a pattern around the whole circumference of the cylinder and over its entire length. It was then placed horizontally in a press and made to revolve so that it alternately passed through the coloring matter and over the fabric which was fed *continuously* into the press.

In the same way that the cylinder brought efficiency and uniformity to printing, so the "thread-advancing" reel developed by Industrial's engineers brought a new efficiency and uniformity to rayon yarn manufacture. Over banks of these reels used on Industrial's "Continuous process" machine, SPUN-LO yarn is spun, washed, bleached, treated, dried and twisted in *continuous* operations as a single thread. Because every inch of every filament receives the same treatment with a minimum of physical handling, it is more uniform in lustre, denier and strength and virtually free from knots and broken filaments.

"CONTINUOUS PROCESS" Spun-lo Rayon
Reg. U. S. Pat. Off.

INDUSTRIAL RAYON CORPORATION • Cleveland, Ohio—New York Office, 500 Fifth Avenue

✓MORE PRODUCTION,
✓CLEANER GOODS
WITH
STA-PUT TREATED OILS

Sta-Put Lubricants are treated to make them leak resistant, to increase their film strength, to make them "stay put" and last longer.

That's why one drum of Sta-Put may last longer than two drums of ordinary mineral oil, when used on looms, comb boxes, lineshafting and other needed places in your mill.

You eliminate messy dripping from your hangers or machine parts; you put an end to oil-spotted cloth; you get a greater oiliness and keep the oil at work preventing costly friction and wear.

All these advantages you obtain when you specify Sta-Put Lubricants for your plant.

Let the Houghton Man survey your needs and recommend the proper grade for your mill requirements, and you'll use "Less Oil, Less Often."

E. F. HOUGHTON & CO.
303 W. Lehigh Ave., Philadelphia, Pa.
1301-05 W. Morehead St., Charlotte, N. C

TODAY-
MORE THAN EVER
EXPERIENCE COUNTS!

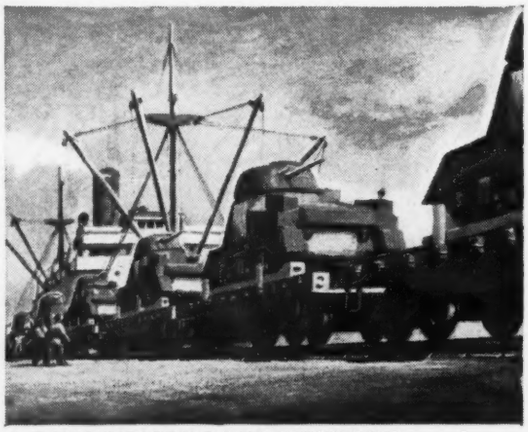
HOUGHTON
PRODUCTS FOR THE TEXTILE INDUSTRY

1. AMERICAN INDUSTRY IS ON THE OFFENSIVE! *Munitions, Metal, Oil, Textile* and many other kinds of plants are charging ahead full blast. Acid is one of their weapons. The tanks that hold it must be tough . . . must keep the acid under control while it does its useful job . . .

2. NO WONDER TELLURIUM LEAD is used to fortify acid tanks, pipe lines, and heating coils! This special alloy keeps sulphuric and other acids in line even at elevated temperatures. A high temperature lead, it resists acid corrosion at temperatures approaching its own melting point...

How to Armor a Tank for the Production Drive

3. TOUGH TO BEGIN WITH, Tellurium Lead actually strengthens under stress. Bending, hammering, stretching, make it work-harden. Result: joints and turnover points are less subject to cracking . . . buckling and creeping are cut down . . . effects of vibration and temperature changes are minimized . . .



4. THESE IMPORTANT NEW ADVANTAGES are the result of alloying time-tested St. Joe chemical lead with a small percentage of Tellurium. Tellurium lead, fabricated in sheets, pipes and coils, is helping keep industry in its Victory stride . . . helping America keep 'em rolling.

NATIONAL LEAD COMPANY—New York, Baltimore, Buffalo, Chicago, Cleveland, Cincinnati, St. Louis; National-Boston Lead Co., Boston; John T. Lewis & Bros. Co., Philadelphia; National Lead & Oil Co. of Penna., Pittsburgh; Georgia Lead Works, Atlanta; American Lead Corp., Indianapolis; Master Metals, Inc., Cleveland; The Canada Metal Co., Ltd., Toronto, Montreal, Winnipeg, Vancouver.

TELLURIUM LEAD

A NATIONAL LEAD COMPANY PRODUCT

Air Conditioning for a rivet

. . . and YOU!

Silly? To air condition rivets? Not at all. When aluminum rivets are cooled to sub-zero temperatures they can be riveted faster and more perfectly . . . *speeding up airplane production.*

Many of us think of air conditioning only in terms of comfort for human beings. Yet today, air conditioning's most important job is to keep the *machines* and *materials* of war industry at desired temperatures and humidities.

To meet these wartime needs, revolutionary advances in air conditioning technique have been made. Temperature and humidity are maintained *far more exactly* than ever before. Equipment is more compact, more flexible.

With the coming of peace, this experience will be applied to the making of improved air conditioning equipment for all sorts of uses.

Packaged air conditioners will be smaller, more compact, more economical—many more homes will have them. And in offices and factories, air conditioning will lower costs and increase efficiency. General Electric will be a logical source of all types of this new equipment for air conditioning, refrigeration, heat transfer and heating.

Air Conditioning and Commercial Refrigeration Department, Division 422, General Electric Company, Bloomfield, New Jersey.

Air Conditioning by

GENERAL ELECTRIC

FOR
. . . longer fluorescent lamp life
. . . greater lighting efficiency
. . . full use of your wiring system
. . . DEPENDABLE SERVICE

E. T. L. is not a brand but a mark of certification by one of the world's foremost electrical testing laboratories.

Specify

fluorescent fixtures using

E·T·L CERTIFIED STARTERS and BALLASTS

When you're planning fluorescent lighting for war work, or making occasional necessary replacements in older installations, it's important to make sure that fixtures use Ballasts and Starters tested and *Certified* by Electrical Testing Laboratories, New York—to assure dependable, trouble-free operation. These "control units" have more to do with the satisfactory performance of fluorescent lamps than any other part of the fixture.

E. T. L. Certified Ballasts and Starters are a specified part of every Certified FLEUR-O-LIER fluorescent lighting fixture. All FLEUR-O-LIERS, control equipment included, are built to 50 definite specifications set up by MAZDA Lamp makers for the protection of the user, and for maximum light from the lamps, and are tested and Certified by E. T. L.

FLEUR-O-LIERS are made in various sizes and designs by over 45 leading fixture manufacturers located at important points all over the country. This means better service on war plant orders, which, of course, are now filled on necessary WPB priority rating.

This label identifies a genuine FLEUR-O-LIER. When you specify fixtures, be sure to look for it!

FLEUR-O-LIERS

CERTIFIED FIXTURES FOR FLUORESCENT LIGHTING

Participation in the FLEUR-O-LIER MANUFACTURERS' program is open to any manufacturer who complies with FLEUR-O-LIER requirements

PERKINS AUTOMATIC BIN PILERS

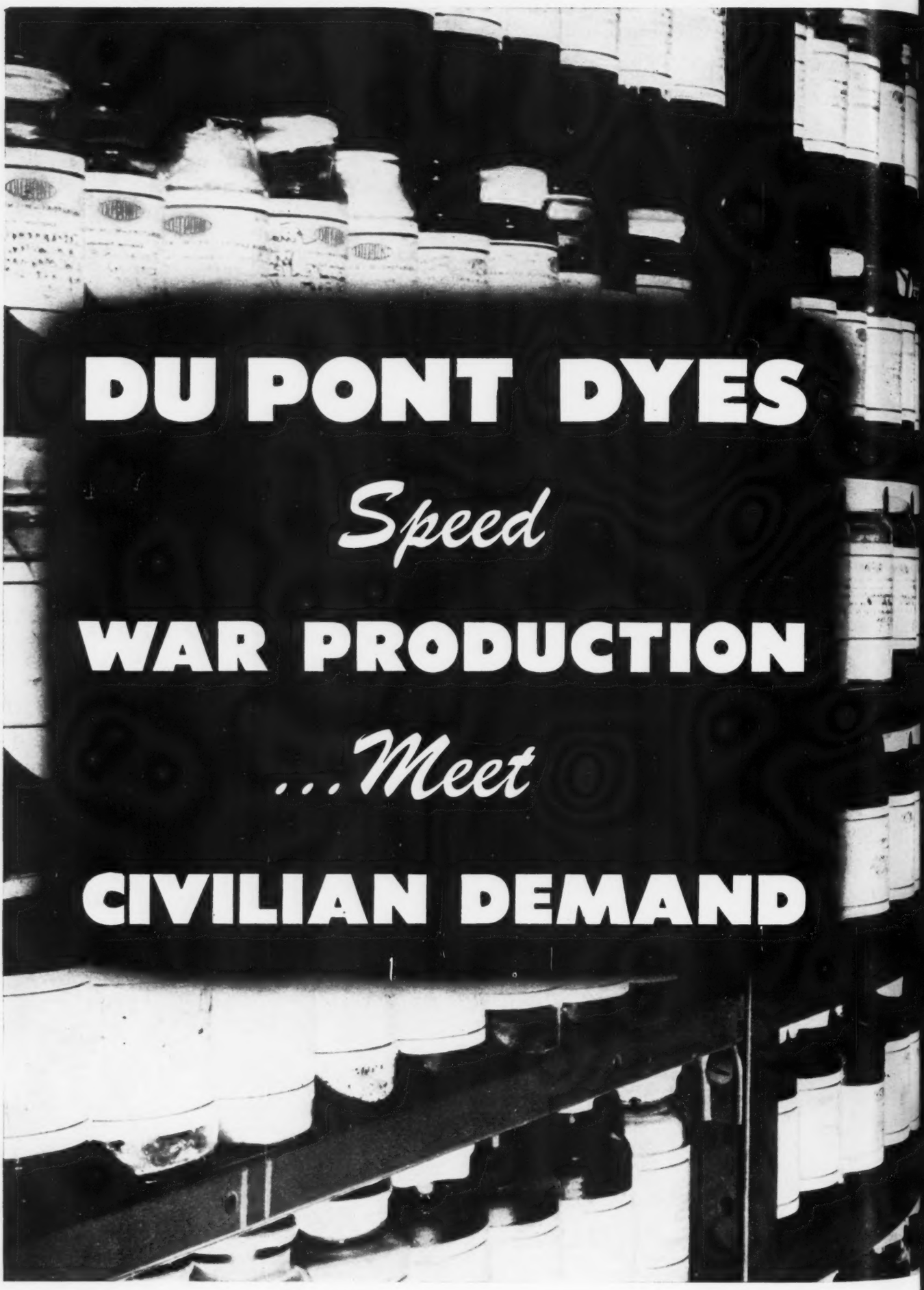
PATENTED

You cannot afford to pile by hand

B. F. PERKINS & SON, Inc.

ENGINEERS AND MANUFACTURERS

HOLYOKE, MASS.


DU PONT DYES
Speed
WAR PRODUCTION
...Meet
CIVILIAN DEMAND

ONE OF A SERIES *of advertisements designed to keep you posted on Du Pont products and services.*

"IN TIME OF PEACE PREPARE FOR WAR" say military men. But, preparedness is a watchword of industry, too. The never-ending research by chemists and technicians in peacetime develops a reservoir of knowledge and experience for wartime service.

The accumulated knowledge of dyestuffs manufacture and application helps speed the production of dyes for cotton and wool uniforms. Du Pont has supplied a large part of the dyestuffs used for this purpose and delivered them with unprecedented speed!

Du Pont dyes meet civilian demands, too. Every new fiber and combination raises new dyeing problems. Du Pont technicians are helping manufacturers develop proper dyeing formulas for these new constructions and supplying good, fast colors. Important, because dyes influence the appearance, salability and useful life of a finished garment and now is the time to safeguard consumer confidence in colored merchandise.

So today Du Pont dyes and technical skill speed production of clothing and equipment for our growing armed forces and help make civilian goods look better—last longer. The same quality dyes and skill that will dress up America after victory. E. I. du Pont de Nemours & Company (Inc.), Wilmington Delaware.

FOR TEXTILE MANUFACTURERS DU PONT MAKES:

ACIDS
CLEANING AGENTS
DYESTUFFS
FINISHING AGENTS
MAINTENANCE PAINTS
FIRE RETARDANTS
PEROXIDES
SCOURING AGENTS
SIZING AGENTS
WATER REPELLENTS
WETTING AGENTS
NYLON
RAYON
SOLVENTS

DU PONT
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

TO FURTHER CONSERVE STEEL...

THE MILLER COMPANY announces the new MILLER Engineered non-metallic fluorescent lighting reflector... offering still further savings of critical material ...and with the same man-made daylight performance.

You know, of course, that the MILLER *Continuous Wireway* Fluorescent System has always offered conspicuous savings of critical material (taking *all* items into consideration from power source right through to controls). Now, we are pleased and proud to tell you that the new MILLER-Engineered *non-metallic* reflector will increase those savings substantially . . . thus contributing still further to the war effort.

Significantly, too, so far as the lighting of your plant is concerned, this further metal saving means absolutely no sacrifice in any way of the high standards of MILLER lighting.

MILLER 50 FOOT CANDLER or 100 FOOT CANDLER will provide fine, man-made daylight . . . adequate productive illumination evenly distributed over every working surface.

Your employes will see better, feel better, work better with this kind of wartime lighting.

There are other noteworthy MILLER benefits, too . . . savings in power consumption, in installation time and in installation dollars. *Why don't you write for all the facts today . . .* and let us have a MILLER engineer help you plan the most efficient lighting layout for your individual war production problems.

(Representatives in principal cities.)

BUY U. S. WAR BONDS

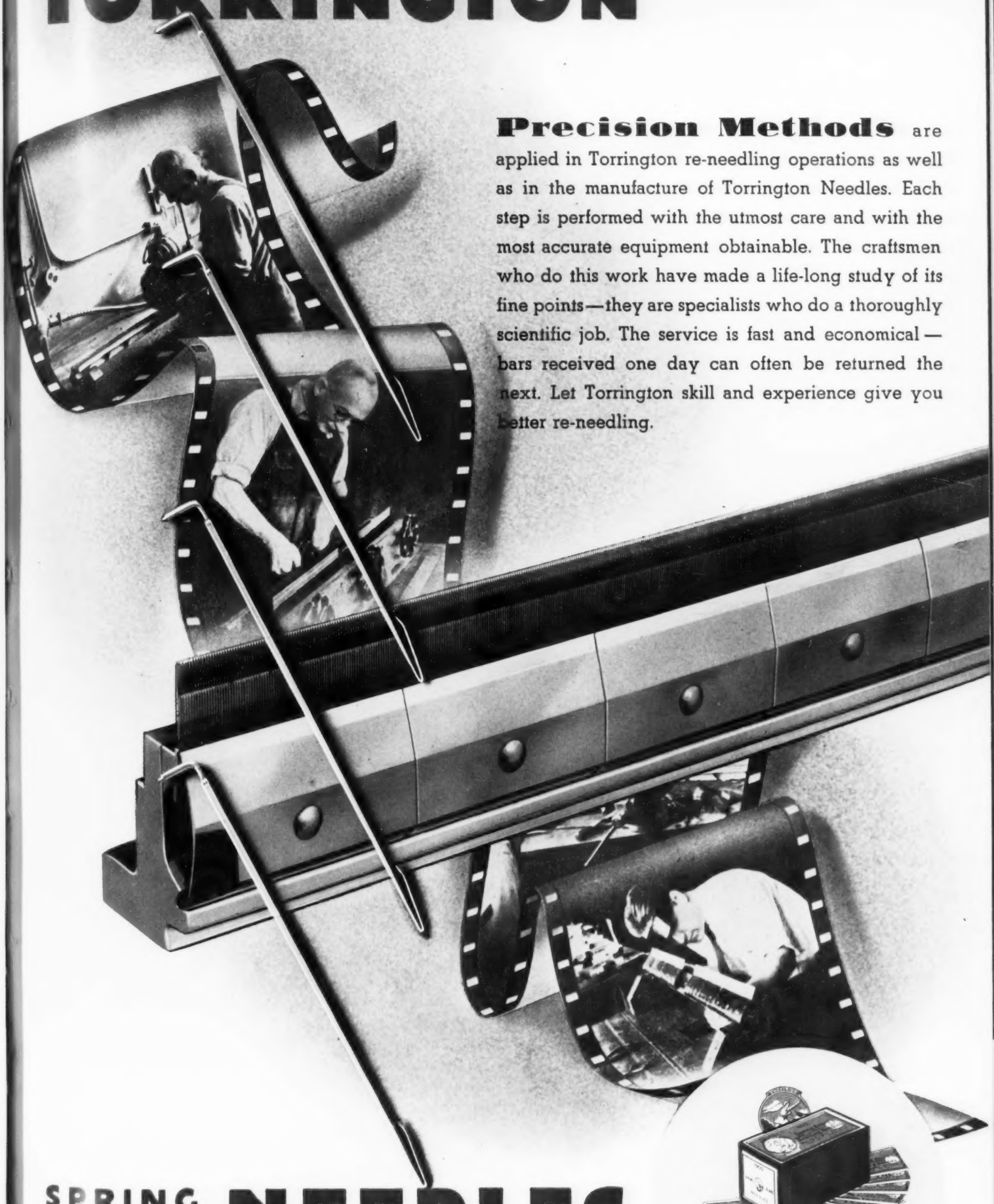
MILLER

50 FOOT CANDLER
100 FOOT CANDLER
MILLER TROFFERS
Continuous Wireway Fluorescent Lighting Systems

THE MILLER COMPANY
MERIDEN, CONN.
Pioneers in Good Lighting Since 1844

● **MILLER offers a complete line of filament and fluorescent lighting equipment.**

TORRINGTON



Precision Methods are applied in Torrington re-needling operations as well as in the manufacture of Torrington Needles. Each step is performed with the utmost care and with the most accurate equipment obtainable. The craftsmen who do this work have made a life-long study of its fine points—they are specialists who do a thoroughly scientific job. The service is fast and economical—bars received one day can often be returned the next. Let Torrington skill and experience give you better re-needling.

SPRING BEARD NEEDLES

SINKERS • DIVIDERS • SPLIT DIVIDERS

"STANDARD EQUIPMENT" IN PEACE IS ONE THING

BUT TODAY, almost before a test pilot can take a new fighter plane "upstairs," its design is changed. Faster-type engines are constantly being demanded — and delivered . . . tougher fabricating materials developed.

Yet the warplane whose wings are still blueprint paper has one thing in common with aircraft designs that have gone before — the Torrington Needle Bearing.

Changed-over to production-for-war, the Needle Bearing is once more proving its adaptability, in applications where its unique advantages mean more than ever. Low coefficient of friction, for example, makes it especially well-suited to manual control operations in fighter planes, assuring smooth, steady performance.

Not only in aircraft production but throughout industry, every feature of the Needle Bearing is filling some vital wartime need. Its small size is saving space and critical materials . . . its remarkable ease of installation cutting assembly time, its design eliminating extra parts and assembly steps, its high capacity and efficient lubrication reducing the need for replacement or for maintenance attention in service.

Small wonder that the Torrington Needle Bearing has become standard equipment, too, in America's production-for-Victory program.

***FOR INFORMATION** concerning capacities and sizes, send for Catalog No. 116. Or consult a Torrington engineer. He is an expert in adapting the Needle Bearing's unique advantages to specific problems.*

LET'S GO! BUY MORE WAR BONDS KEEP 'EM FLYING

THE TORRINGTON COMPANY

TORRINGTON, CONN., U. S. A. • *Est. 1866*

Makers of Needle and Ball Bearings

New York · Boston · Philadelphia · Detroit
Cleveland · Seattle · Chicago · Los Angeles
San Francisco · Toronto · London, England

TORRINGTON NEEDLE BEARING

Every feature fills a wartime need

How to dress MORE Fighting Men *with LESS chemicals*

In its all-out drive to clothe and equip our fighting men, the textile industry has broken nearly every production record on the books . . . yet the calls for more top quality materials like this cotton drilling for Marine Corps uniforms continue to mount . . . while supplies of raw materials, labor, machines and processing materials continue to grow more critical.

To help you meet those calls for more and more production with a minimum of hard-to-get chemicals, here are four points where savings may be possible:

1. YOUR STOREKEEPING SYSTEM—Are you taking all possible precautions against loss of volatile materials . . . spoilage of heat and moisture-sensitive materials . . . leakage from storage vats and bins?

2. YOUR FORMULAE—Are you making up processing solutions in *exactly* the quantities needed for the goods to be processed so that no left-overs are wasted?

3. YOUR PROCESSES—Are there any ways in which you can change a process or adjust your methods of application to use less of a given material?

4. YOUR PRODUCTION EQUIPMENT—Would control instruments on such equipment as scouring machines, slashers or dyeing machines help cut waste?

For our part we are bending every effort to increase production on all the twenty-seven essential chemicals which Monsanto supplies to the textile industry . . . without sacrificing those two essentials you must have in *every* shipment of textile chemicals — *quality* and *uniformity*. MONSANTO CHEMICAL COMPANY, St. Louis, Missouri, and Everett Station, Boston, Massachusetts.

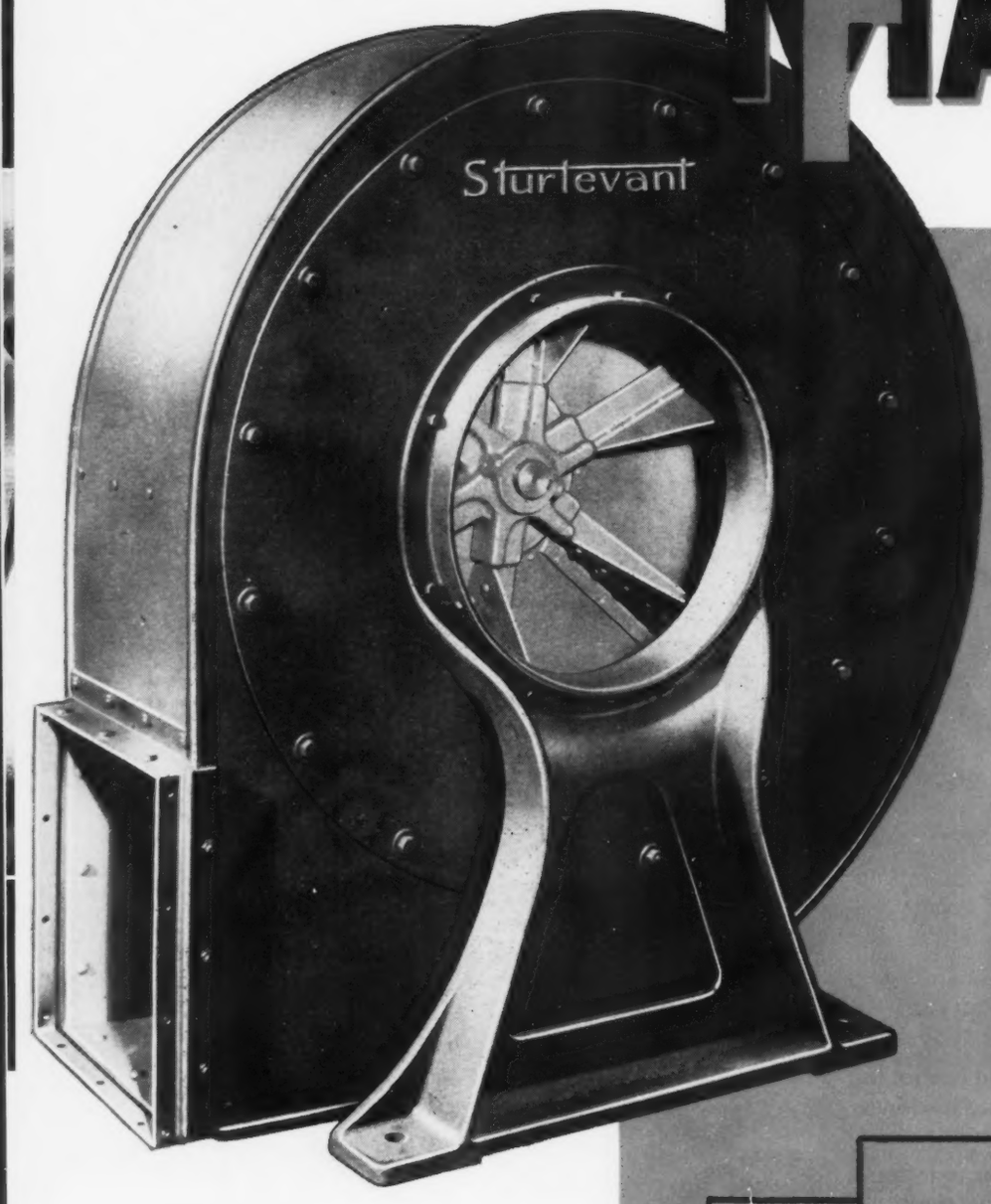
This is a sample of the 7.7-oz. cotton drill required for Marine Corps uniforms. Marine Corps Specifications dated November 22, 1937 (revised Feb. 3, 1942), state "cloth shall be closely singed, fully mercerized, and contain no sizing. The twill shall be uniform, clear and prominent."

MONSANTO CHEMICALS
SERVING INDUSTRY...WHICH SERVES MANKIND

MONSANTO TEXTILE CHEMICALS

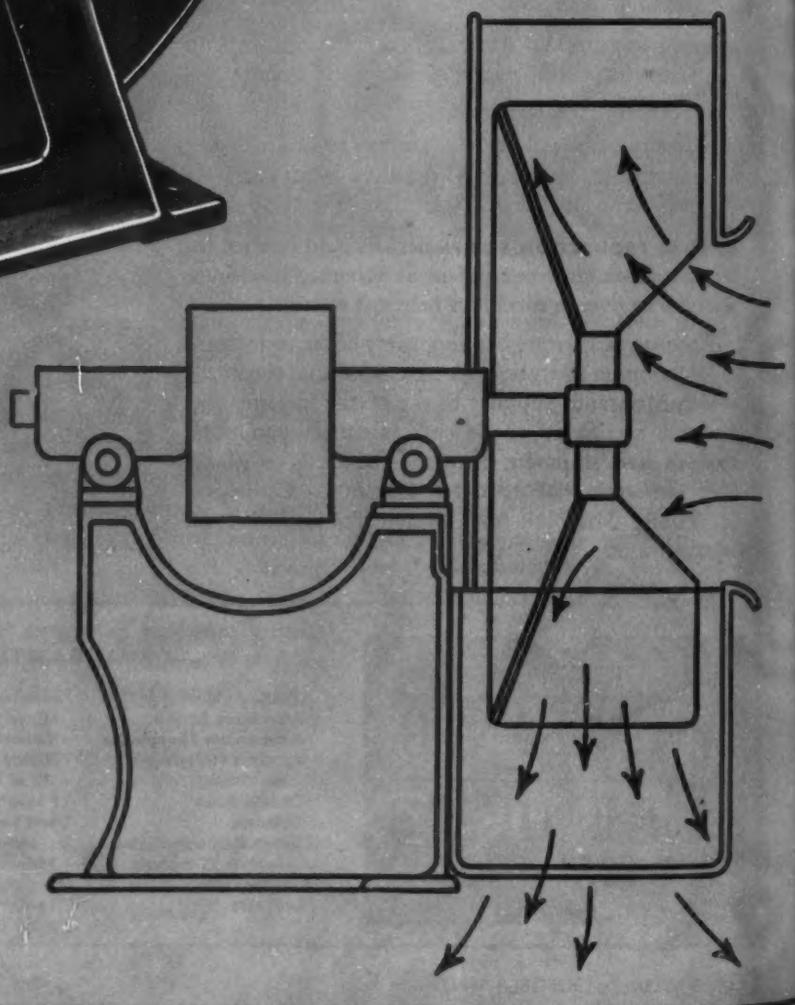
- Acetic Acid
- Aluminum Sulfate
- Ammonium Phosphates
- Aroclors (chlorinated diphenyls)
- Caustic Soda
- Chlorine
- Dyestuff Intermediates
- Disodium Phosphate
- Glauber's Salt
- Lacquers
- Merclor (bleach)
- Mixed Acid
- Monosodium Phosphate
- Nitrate of Iron
- Oil of Vitriol
- Phosphoric Acid
- Santomerse (wetting and surface active agent)
- Sodium Acid Pyrophosphate
- Sodium Bisulfite
- Sodium Sulfate, anhydrous
- Sodium Sulfite
- Solvents
- Sopet (wool spinning lubricant)
- Sulfuric Acid
- Tetrapotassium Pyrophosphate
- Tetrasodium Pyrophosphate
- Tricalcium Phosphate
- Trisodium Phosphate

MAN OF



UNIQUE STURTEVANT STREAMLINE INLET AND ANGLE FLOW...

Diagram below illustrates the principle employed to reduce turbulence and step up efficiency in the Planovane Exhauster Design 3. Particle-laden air or gas enters from right. Because of the streamlined contour of the special inlet, the stream flow is instantly deflected away from center, hitting the back plate at an angle designed to *help* fan action rather than hinder it. By this means, too, backplate erosion is greatly reduced.



TYPICAL USERS

of Sturtevant Dust Control, Fume Exhaust and Pneumatic Conveying Equipment

General Electric Co.
Standard Oil Co.
Oliver United Filters
Washburn Wire Co.
Fafnir Bearing Co.
Western Electric Co.
Endicott Johnson Co.
Bethlehem Steel Co.
U. S. Gypsum Co.
American Coal Co.
Crown Cork & Seal Co.
Congoleum Nairn Inc.
Pepperell Mfg. Co.
Johnson & Johnson
Ford Motor Co.
Bakelite Corporation
United Aircraft Corp.
Frank H. Lee Co.
Scott Paper Co
Firestone Rubber & Latex Products Co.
Plymouth Motor Corp.
Liggett & Meyers Co.
Chase Brass & Copper Co.
Johns Manville Products Corp.
Ingersoll Rand Co.
Aluminum Company of America
John A. Roebling's Sons Co.
Timken Roller Bearing Co.
Monsanto Chemical Co.
Virginia Electric and Power Co.
U. S. Pipe & Foundry Co.
Central Maine Power Co.
Westinghouse Electric Mfg. Co.
Celanese Corp. of America
Yale & Towne Mfg. Co.
Baldwin Locomotive Co.
Keasby & Mattison Co.
S. S. White Dental Mfg. Co.
E. I. Dupont de Nemours Corp.
Revere Copper & Brass Co.
Allis Chalmers Mfg. Co.

STURTEVANT—FOUNDER OF

FALL WORK

All-Purpose Sturtevant Planovane Exhauster Design 3 meets widely varied needs of many industries

IN THE COLUMN at right are some of the hundreds of industrial exhaust jobs now being successfully handled by rugged Planovane Design 3 Exhausters. The diagram at left shows the main reason why Planovane Exhausters are preferred for industry's "dirty work" — Sturtevant Streamline Inlet and Controlled-Angle Flow. These unique features reduce slip-stream turbulence and cut down back-plate erosion. Result: higher over-all efficiency, lower maintenance costs, less time-out-of-service for repairs and replacements.

Two other reasons why the Sturtevant Planovane Exhauster Design 3 is a favorite all-purpose unit lie in its simple, sturdy construction and the wide range of sizes available. The *minimum* thickness of scroll, housing-side and blade sheets is 10 gauge! In the intermediate sizes, wheel blades are increased in thickness to 9 gauge, while above size 60 both scroll sheets and wheel blades are further increased to 7 gauge! Housing sides are increased to 7 gauge in sizes above 70. Eleven sizes, ranging from size 30 with 21-inch diameter wheel size to 100 with 72¼, enable the Planovane Design 3 to handle practically every kind of exhaust job.

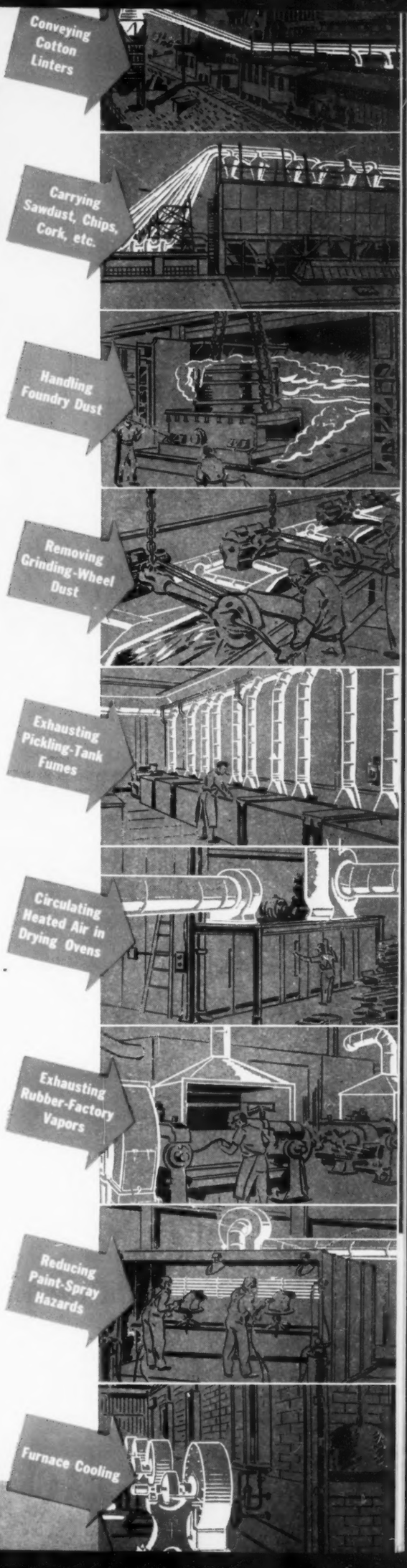
Your exhauster needs may not require an all-purpose unit such as the Planovane Design 3. Special conditions in your plant may call for a specific type of exhauster installation for which Design 3 might not be suitable. If so, Sturtevant can still help you, for all of the experience and knowledge gained by Sturtevant in founding and building the air-handling industry are here to help you solve your exhaust problems. For further information, write for Catalog No. 410-4.

B. F. STURTEVANT CO., Hyde Park, BOSTON, MASS. • *Branch Offices in 40 Cities*
B. F. Sturtevant Company of Canada, Limited—Galt, Toronto, Montreal

Sturtevant
REG. U. S. PAT. OFF.

Puts Air to Work

THE AIR HANDLING INDUSTRY



These 2 Words MAKE MOTOR-DRIVE *MORE THAN* POWER!

• *Motor-drive provides within itself a means of*

Speed Control	Reversing
Braking	Remote Control
Tandem Operation	Controlled Acceleration
Tension Control	Safety

Slow Speeds for inching, threading, inspection

Applying them to boost production and improve quality
APPLICATION ENGINEERING. That's our busines

In process just behind these windows are armature coils, field coils, stator coils, all in great variety—evidence that the Reliance Motors of which they will be a part are designed to perform many functions besides turning shafts and gears. Motors will fit the job. They are going to users who started their machine design and production plans with the question, *"What can we get the motor to do besides supply power?"* Help in answering this question can be given by Reliance men trained to think of motor-drive in terms of production. There's no obligation involved in asking us to sit in with you and talk it over.

RELIANCE ELECTRIC & ENGINEERING COMPANY
1088 IVANHOE ROAD • • • CLEVELAND, OHIO

BIRMINGHAM • BOSTON • BUFFALO • CHICAGO • CINCINNATI • DETROIT • GREENVILLE, S. C.
HOUSTON, TEXAS • LOS ANGELES • MINNEAPOLIS • NEW YORK • PHILADELPHIA • PITTSBURGH
PORTLAND, ORE. • ST. LOUIS • SAN FRANCISCO • SYRACUSE, N. Y. • AND OTHER PRINCIPAL CITIES

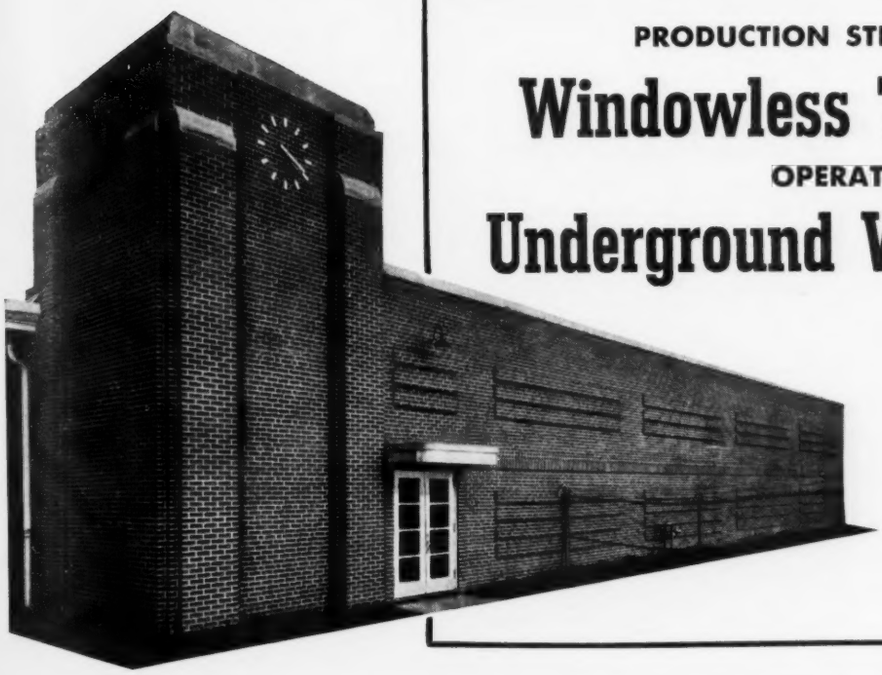
RELIANCE A-C D-C MOTORS

PRODUCTION STEPPED-UP IN

Windowless Textile Mill

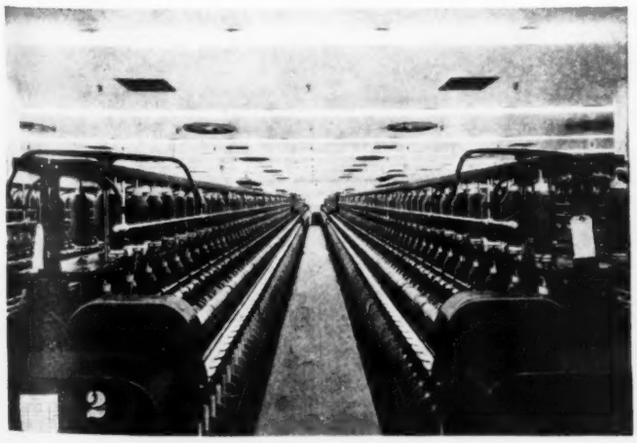
OPERATING

Underground Weave Room



Unique Plant of Macon (Ga.) Textiles, Inc. Subsidiary of Uxbridge (Mass.) Worsted Company

UNDERGROUND WINDOWLESS WEAVE ROOM—where relative humidity of 75% is maintained year 'round by Carrier humidifiers. Acoustics and lighting equipment were planned in conjunction with the air conditioning supply outlets.



WINDOWLESS SPINNING ROOM—located on ground level. Air outlets of circular design are placed flush with the ceiling to discharge conditioned air into the room.

CARRIER AIR CONDITIONING equipment, controlling humidity and temperature, has greatly accelerated production in this revolutionary windowless textile mill.

The two-story building has one complete story beneath ground level. On ground level is a cotton spinning room and underground is a complete weave room. Relative humidity is maintained at 75% in the underground weave room year 'round by Carrier humidifying equipment. The mill is heated during the winter months by the regular air conditioning equipment using steam from a gas-fired boiler. Supply ducts are concealed over a hung ceiling and the attic space above the suspended ceiling is used as a return air chamber.

The Navy "E", one of the U. S. Navy's most coveted honors, has been awarded to Carrier for excellence in war production.

Carrier
Air Conditioning

CARRIER CORPORATION, Syracuse, N. Y. Desk J-44

Please send free copy of 24-page manual on the care and maintenance of Carrier Air Conditioning and Humidifying equipment.

Name .....

Company .....

Address ..... City .....

Salvage, save, repair and re-build old and worn equipment

You are doubtless doing your bit in the big drive for scrap. While you are about it see how much of your old equipment and parts can be re-conditioned for further service in *your own* plant.

Many items discarded in the past will probably be uncovered. By all means add them to Uncle Sam's needed pile of scrap . . . but only after you have made sure they have no more *productive* value to *you*. The following are suggested as a few among many possibilities.

1. SALVAGE THE PARTS of obsoleted equipment for other service as re-use of sheet in smaller dye tanks, hampers, plant trucks, transfer tubs, table tops, etc. Tank tie-rods, pump shafts may be re-used either in the same service or as in the case of pump shafts converted into valve stems and seats.

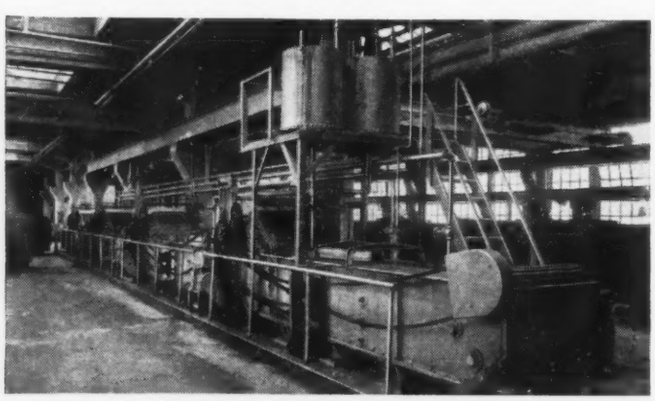
2. SALVAGE WORN BEARINGS and shafts by having them rebuilt whenever possible with sprayed metal coatings where a little new metal can save very considerable amounts of otherwise discarded materials.

3. MAKE USE OF WELDING and brazing whenever possible to re-claim broken machinery parts.

4. DON'T OVERLOOK local auto junk yard for usable spare parts to carry you over an emergency. An auto drive shaft would make a good jack shaft or pump shaft, a rear axle could be used for a machinery part or agitator shaft; bolts and nuts, other fastenings, ball and roller bearings and even grease washers would be found here that would very possibly fill the gap during a critical breakdown.

Getting all you can out of *existing* equipment and parts is a genuine contribution to the war effort. It also reflects in your own profit and loss statement.

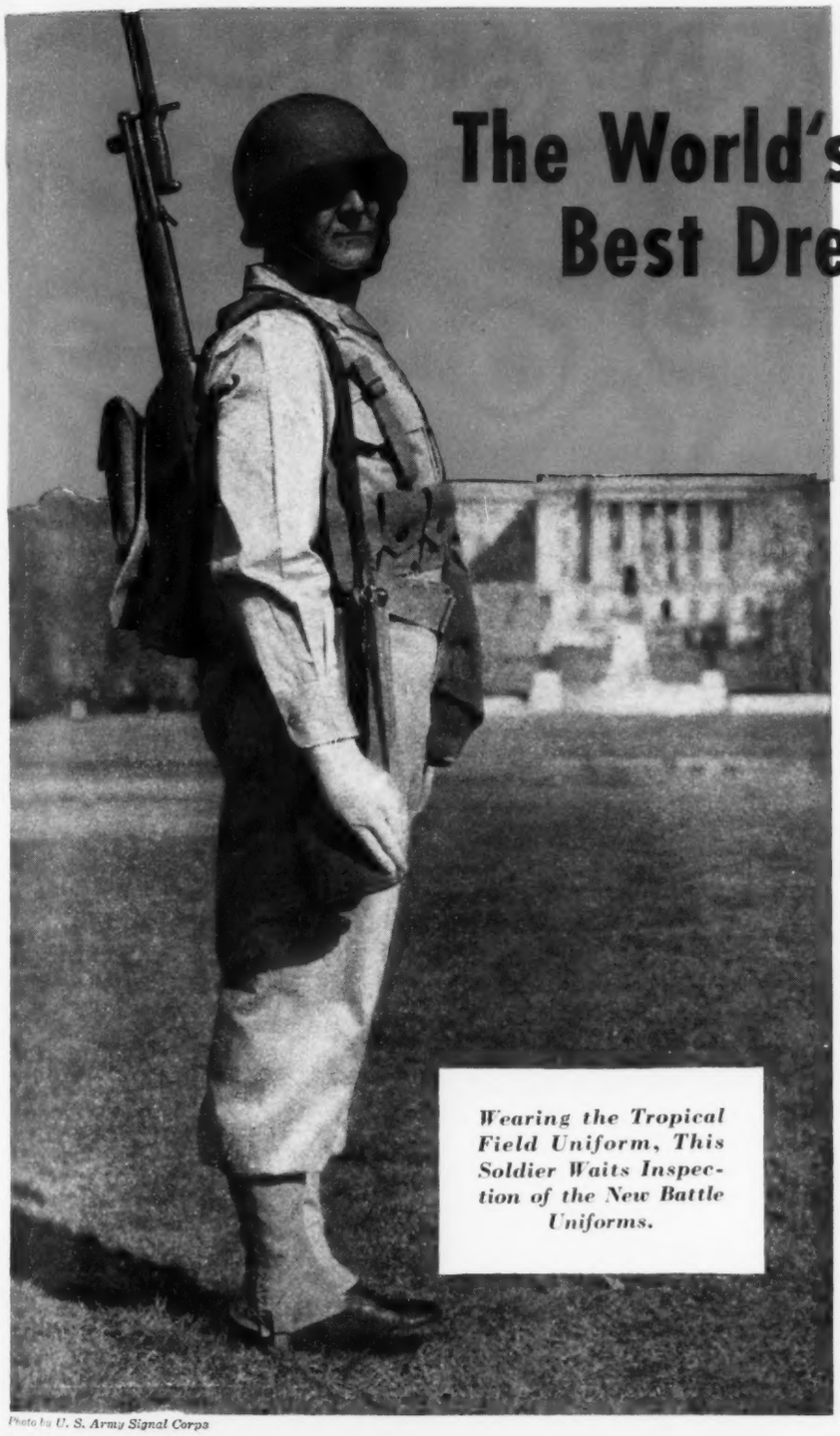
THE INTERNATIONAL NICKEL COMPANY, INC., 67 Wall Street, New York, N. Y.



★ ★ ★ ★ ★ **INCO NICKEL ALLOYS** ★ ★ ★ ★ ★

MONEL • "K" MONEL • "S" MONEL • "R" MONEL • "KR" MONEL • INCONEL • "Z" NICKEL • NICKEL

Sheet . . . Strip . . . Rod . . . Tubing . . . Wire . . . Castings



The World's Best Dressed Man—

Wearing the Tropical Field Uniform, This Soldier Waits Inspection of the New Battle Uniforms.

Photo by U. S. Army Signal Corps

Better than any other Civilian group, the Textile Industries well know how staggering, complex and efficient has been the job of making America's fighting men—the best dressed in the world. And to help make them so, the Textile Industries have assumed responsibility for producing, with amazing speed, the vast quantities of incredibly varied fabrics and uniform cloths required by our Armed Forces of land, sea and air.

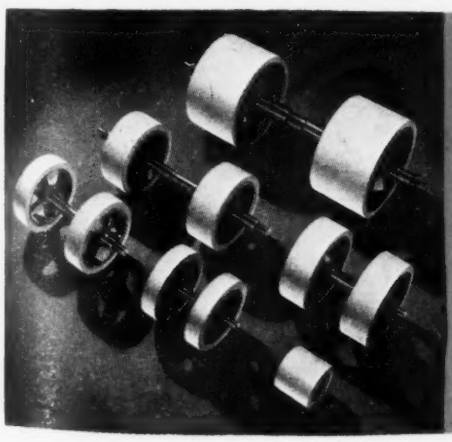
And it's no secret either that oil-proof Dayco Worsted Cots last up to 12 times longer, and save time, money and power. Here's why: 1. Dayco Worsted Cots are uniform and non-varying. 2. Won't groove—have no bumps or hollows. 3. Won't chip out—need no aging. 4. Require less tension—eliminate resets after shut-downs. 5. Easily and quickly applied to the arbors. 6. Guaranteed not to come loose from the rolls.

In addition to serving the Textile Industries, Dayton's facilities and production experience are today being dedicated to the manufacture of special parts for Army and Navy Combat Equipment.

THE DAYTON RUBBER MFG. CO.
DAYTON, OHIO
HOME PLANT, TEXTILE PRODUCTS DIVISION
WAYNESVILLE, NORTH CAROLINA
The Originators and Pioneers of Dayco Tempered Roll Coverings

MAIN SALES OFFICE
Woodside Building . . . Greenville, S. C.

EXPORT DIVISION
DAYTON RUBBER EXPORT CORPORATION
38 Pearl Street, New York, N. Y. U. S. A.



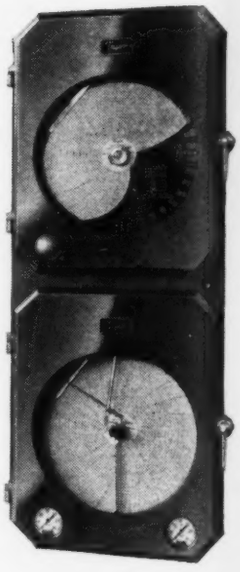
Dayton
Thorobred TEXTILE PRODUCTS
Dayco WORSTED COTS—LOOM SUPPLIES

MADE BY THE WORLD'S LARGEST MANUFACTURER OF V-BELTS

Copyright 1942, The Dayton Rubber Manufacturing Co.

LOAD THE KETTLE AND PUSH THE BUTTON!

Taylor Time Schedule Controller does the whole size-cooking job automatically

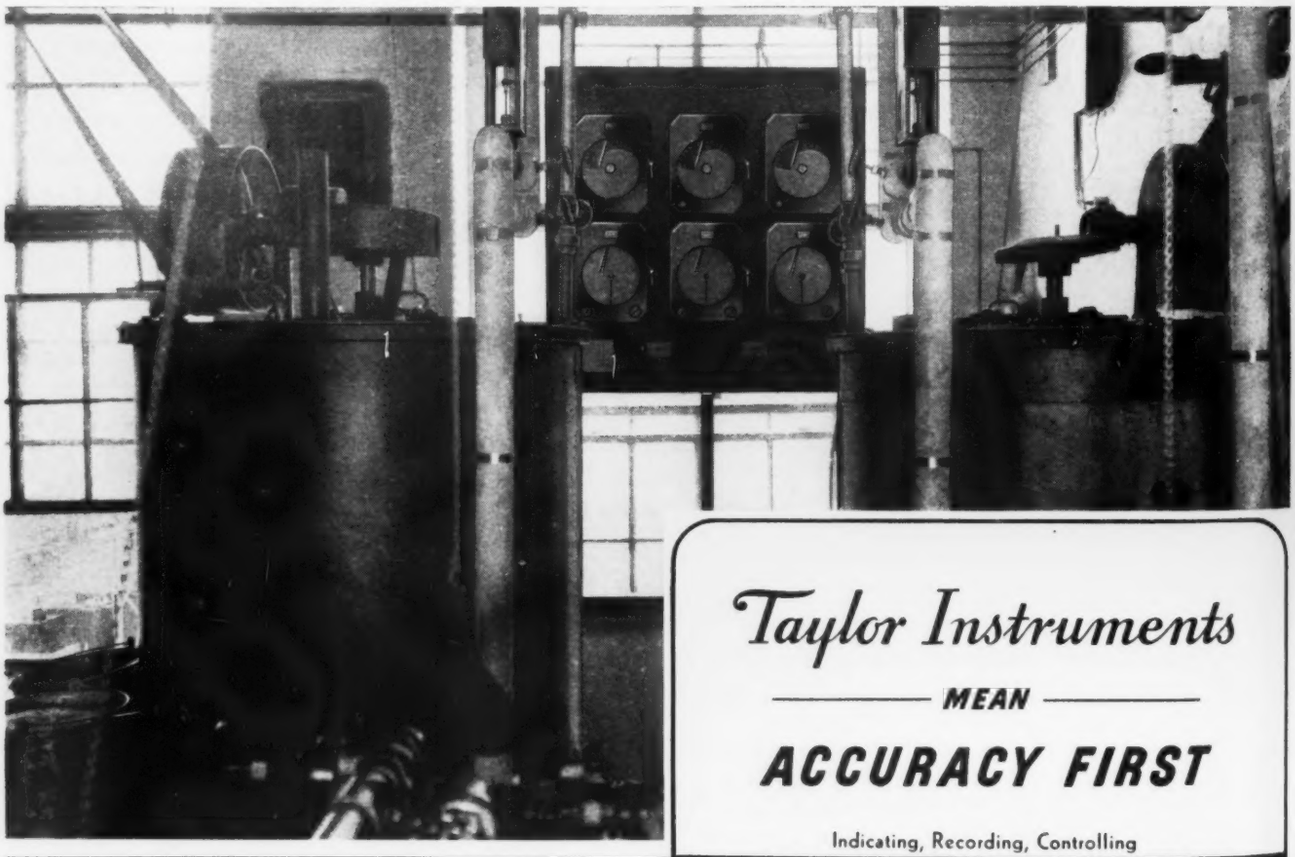


HERE'S a new Taylor development that was practically made to order (Taylor-made, we almost said) for size-cooking control.

Today, with shortages on every hand, this precise operation is more important than ever. With Taylor Fulscope Time Schedule Controllers, once you have the ideal cooking schedule, you can reproduce it *every time,* with automatic control of time and temperature. No over-boiling. No overflowing. And all you do is load the kettle and push the button!

The Taylor Time Schedule Controller has many features not found in any other instrument. Its dual case construction permits easy accessibility to both control mechanism and cam and trip mechanisms. Its many auxiliary functions make it easy to add extra processing steps. It is available also in double-duty form for control of two related temperatures, pressures, or flows.

Your Taylor Field Engineer can give you the full story. More than that, he can analyze your particular conditions and help you set up exactly the schedule you need for best results. Write to Taylor Instrument Companies, Rochester, N. Y. or Toronto, Canada.



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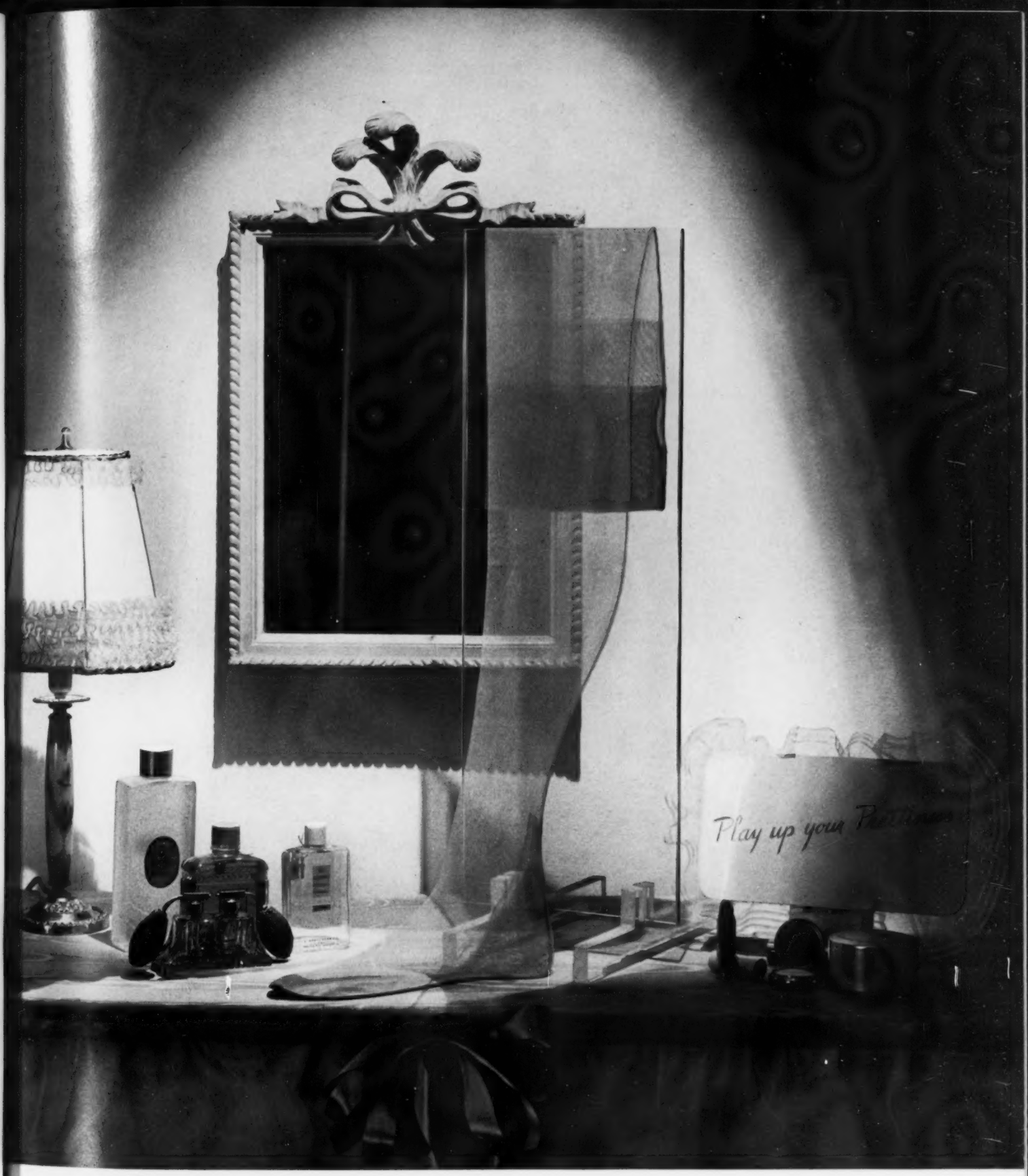

U. S. N... "E" Insignia (twice size) awarded ...vees of Textile Machine Works ... 1941, for outstanding producti... Naval Ordnance.

Play up your prettiness . . . Every woman knows that the sincerest compliment for lovely legs is a beautiful stocking fabric. Every hosiery manufacturer knows that money invested in good needles pays big dividends in better knitting results. Keep your knitting machines young and effective with TMW Needles . . . *And remember: Regular Reneedling Pays! Let us put your needle bars in shape for faster, more accurate, more profitable knitting.*

TEXTILE MACHINE WORKS • READING, PA.

U. S. Navy "E" awarded Textile Machine Works July 25, 1941, for outstanding production of Naval Ordnance. The white star is evidence of continuing superior performance.

"When one door is shut, another opens."

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DU PONT ANNOUNCES NEW

WAR EMERGENCY

DULUX HIGH HIDING MILL WHITE

REG. U.S. PAT. OFF.

SAVES TIME, MATERIAL, LABOR

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• DULUX finishes have been called on to do their part in helping to win the war. Some of the chemicals used in the manufacture of DULUX are essential war materials. In order to conserve supplies of these raw materials, Du Pont chemists have developed the new War Emergency DULUX formula.

IN ORDER to conserve essential war materials, Du Pont chemists have reformulated DULUX High-Hiding Mill White.

New War Emergency DULUX High-Hiding Mill White, like the pre-war product, hides so well that many paint jobs which normally require two coats can now be done with one coat. This is vitally important in these days because it means a saving of time, material and labor.

We do not claim this product is the equal of regular DULUX Mill White in all respects. However, we are fortunate in being able to offer, in this new formula, a product which has these outstanding characteristics:

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"GULF lubrication is the basis of our effective preventive maintenance program"

SAYS THIS MILL SUPERINTENDENT

"Gulf quality oils and greases help us avoid excessive equipment wear and delays from mechanical troubles"

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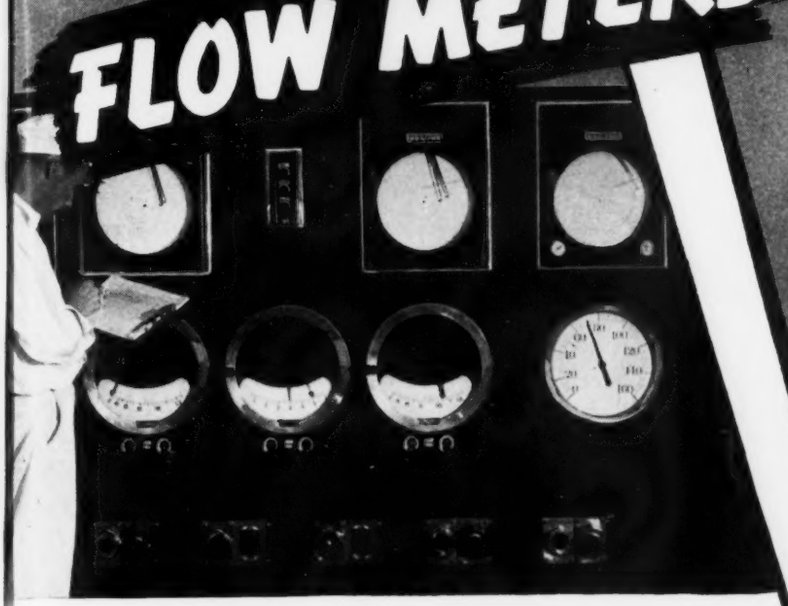

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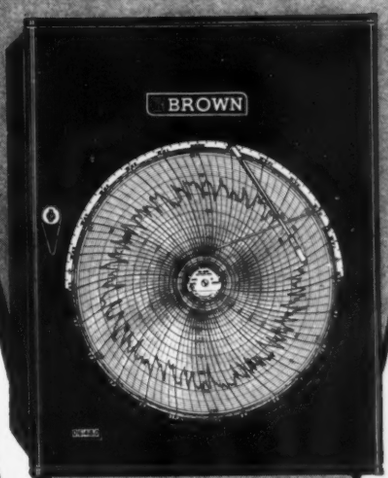

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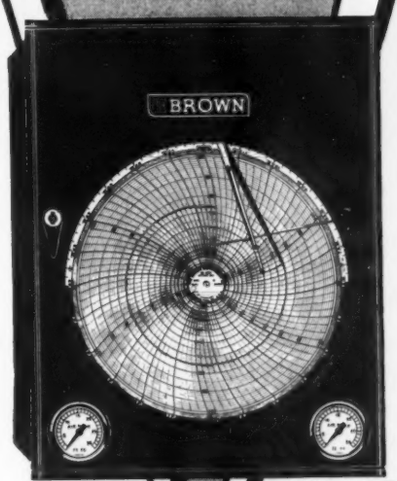

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IN THE NEXT

THE OUTSTANDING FEATURE of the November issue will be the Annual Mill Check-Up Section. Included in this section will be a series of articles describing how textile manufacturers can maintain their productive and auxiliary equipment at the highest possible level of efficiency and "Keep 'Em Running" during the present emergency. Examples of articles in this section are the following: How to Organize the Maintenance Department to Keep 'Em Running, How to Operate a Maintenance Tickler System to Keep 'Em Running, How to Schedule Card Room Lubrication to Keep 'Em Running, How to Maintain Throwing Machines in Prime Condition to Keep 'Em Running, How to Care For Knitting Machines to Keep 'Em Running, How to Add Life to Auxiliary Equipment to Keep 'Em Running. In addition to this Special Mill Check-Up Section, the November issue will contain articles on Manufacturing Rayon Blends on the Worsted System, Fabrics For Military Purposes, Infra-Red Drying of Textiles, and other important and timely subjects.

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WITH THE MACHINES YOU HAVE!

Equip machines with TANNATE belts . . . keep production moving at maximum speed and with minimum interruption for repairs or for maintenance!

TANNATE carries full load—grips tightly, runs smoothly, keeps machines producing at full capacity. It has plenty of stamina for 2 and 3-shift daily operation, too—with little maintenance other than an occasional application of Rhoads Belt Preserver.

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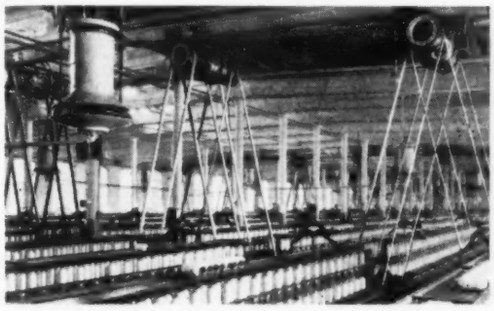
OUTLASTS any ordinary belting! . . . Tannate's special tannage assures firm pulley grip, minimum slippage. Tannate delivers maximum power even in continuous service under varying conditions.



OUTLASTS ordinary belts! . . . Tannate is 1/3 to 1/2 stronger than most first-quality oak belting; and, even when exposed to high temperatures, humidity, machine oils and many weak chemicals, TANNATE retains its grip and strength.

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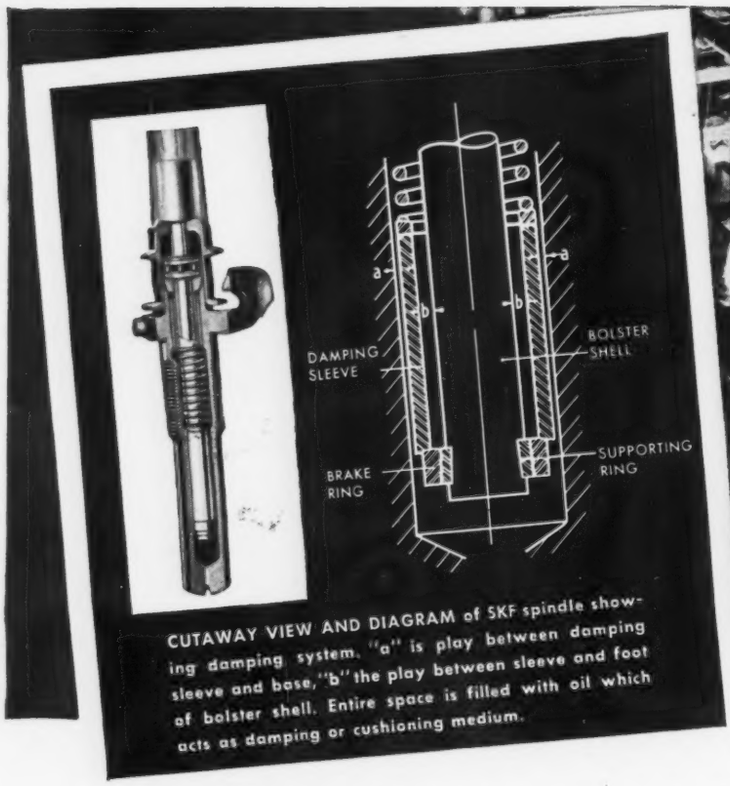
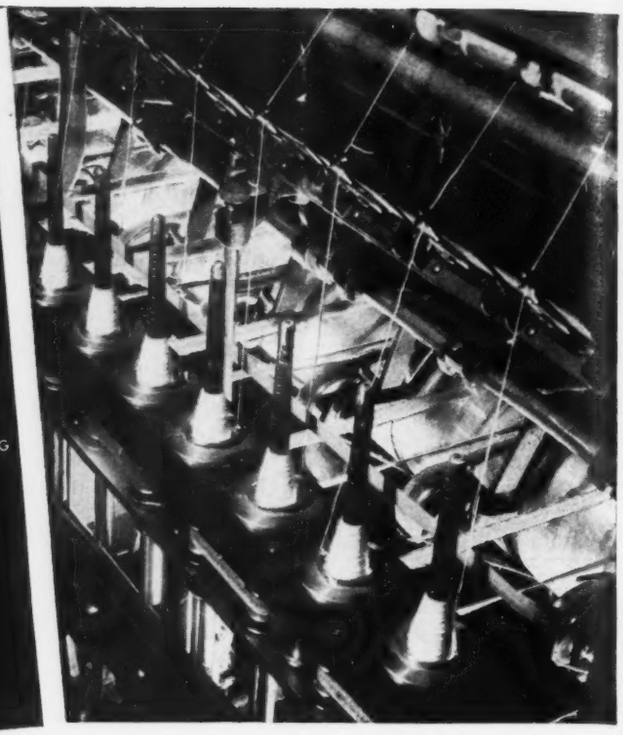


CUTAWAY VIEW AND DIAGRAM of SKF spindle showing damping system. "a" is play between damping sleeve and base, "b" the play between sleeve and foot of bolster shell. Entire space is filled with oil which acts as damping or cushioning medium.



SPINDLE DAMPING FOR *Stronger Yarn*

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Tune in FRED ALLEN every Sunday night—CBS

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TEXACO

TEXACO Lubricants

FOR THE TEXTILE INDUSTRY

HELP WIN THE WAR BY RETURNING EMPTY DRUMS PROMPTLY

The Chemical Engineer cuts years to months...

Born in the turmoil of the last war, he is shaping a new world with mighty swords and magic plowshares

German Consul-General Hossenfelder, writing from New York on March 3rd, 1916, to von Bethmann-Hollweg, chancellor of the Imperial German Government, confidently predicted defeat for the United States because we were totally dependent upon the great chemical industry of Germany. "Americans," he wrote, "can never establish such an industry. They have the resources but they lack the necessary science and technology. And, besides, the conflicting selfishness of American business renders it impossible."

Even before the ink was dry on Hossenfelder's letter a new figure appeared on the industrial scene—the American chemical engineer. With the help of patient, but progressive and venturesome capital, he laid the foundations for the largest and most resourceful chemical industry in the world.

Today he is an all-important figure. For we are fighting a chemical war, even though the emphasis that is placed on planes, tanks, ships, guns and other armament tends to obscure that fact. And this chemical engineer is waging war for us on a prodigious scale. Bombers carry more tons of more deadly explosives because he has developed stronger and lighter alloys and more efficient fuels. Tanks are better armored and wield heavier blows because of products and processes born in chemical laboratories. Ships are welded together by new metallurgical techniques that save precious months over older processes. Gun barrels that are made in minutes instead of hours shoot farther and faster because of better ammunition.

And quantity keeps pace with quality. By mid-year of 1942, explosives were being produced in newly constructed plants twelve times faster than a year ago. Smokeless powder output has been doubled since December. Five times as much TNT was being made in July as in the months preceding Pearl Harbor. One single new plant produces more of this high explosive than did the entire pre-war industry—and several of these plants already are in production.

By what Major General William N. Porter, Chief of the Chemical Warfare Service, calls a "miracle of production," the sort of incendiary bombs that General Doolittle's lads showered on Tokyo were rolling out of our plants within a few weeks after we got into the war. As General Porter puts it, "they were rolling not by hundreds or even thousands, but by the millions." That record he has cited as a tribute to the "ingenuity, industriousness and patriotism" of the American chemical industries.

Yet the General agrees that we have only started to produce in the tremendous volumes that will shortly make Germany, Italy and Japan "revolve on their boasted Axis." Our newest plants are just coming into production. They face no limiting shortages of materials for, in the main, our chemical industry draws its strength from coal, salt, sulphur, limestone, oil, natural gas, coal-tar, air and water—all available in abundance.

We have heard little about the use of poison gas by our enemies. It may be that good reasons for this are stored away in our well-stocked chemical arsenals. American chemical manufacturers have worked hard and long with our armed forces so that if the time ever comes to make good on the President's warning of retaliation, America will be more than ready.

And defense against gas has not been overlooked. Every soldier is equipped with a most efficient type of gas mask, developed through twenty-five years of intensive research. The Chemical Warfare Service already is manufacturing millions of masks for distribution to civilians. Let us hope we may never have to use them. But if we must, we need have little fear of any gas or secret chemical.

This gas mask program has been made possible by a literal metamorphosis of production facilities, as peacetime industries have been converted to war purposes. A lumber company, for example, is making activated carbon from sawdust. Novelty manufacturers of rubber goods are turning out valves and assembling other parts. Former manufacturers of shirts, swim-suits, shoes and beds have converted their facilities and are contributing their share. More than eleven hundred contractors and two hundred and fifty sub-contractors are supplying their full quotas of chemical warfare materials. And production is right up to schedule.

But the bulk of the war job of our chemical industries has to do with items other than weapons and

ammunition. The German Consul-General, in that 1916 report to Berlin, said that many American industries were in a critical condition because of the scarcity of German chemicals. He related in particular that "the cries for help from the world of physicians are becoming louder and louder and more and more insistent." Thanks to our chemical industries this cry no longer is heard. Even though we are again cut off from quinine, camphor and some other strategic medicinals, our homes and hospitals are adequately supplied with synthetic products. Most of these are better and cheaper than the natural materials. The same sulfa drugs that have saved so many civilian lives in recent years have gone to war, with the result that deaths from infection at Pearl Harbor and Bataan are reported as surprisingly low. In this war we suffer no shortages of iodine and potash. Pioneering research in the field of vitamins has led to new industries that are contributing to health and better nutrition.

Those new uniforms the soldiers are wearing are of better quality and will last longer than the shoddy, ill-fitting outfits of 1918—thanks to sunfast dyes and new man-made products. And in the field of fabrics, nylon and the new rayons have gone to war in parachutes and super-strong cords for tank treads and tires.

* * * * *

And that brings up the question that 30,000,000 American motorists are asking with ever increasing concern. "When, Mr. Chemical Engineer, are you going to give us a set of new tires for the old family bus?"

That, I am told, is just what the chemical engineers have set about to do on a scale that is difficult to comprehend. In the words of Raymond Clapper, the columnist, "the synthetic rubber program for this year and the next is the biggest job of chemical engineering ever undertaken in the world." A billion dollar industry is being built at record speed to make almost a million tons a year of chemical rubber to serve our war needs and those of our allies. This cannot be accomplished overnight. Many months are required to design and fabricate complex equipment, much of which must be made from corrosion-resisting metals and alloys. We shall be lucky if a tenth of the desired capacity is in continuous production this year and even more lucky if, by the end of next year, the new industry should be turning out synthetic rubber at a rate of 875,000 tons—using both petroleum and grain as raw materials.

All this, of course, must go for essential military uses but there is reason to believe that in the laboratory and pilot-plant stages we have some promising substitutes and stop-gap materials that may tide us over until the big program starts rolling.

The present prospect of real success is possible only because of the cooperation of the chemical, rubber and petroleum industries. Individual firms and entire industries have set aside their normal desires and selfish interests to pool their patents, share their research and engineering developments for the common good. Synthetic rubber is here to stay as the basis for a great post-war industry: no doubt as to that lingers in the minds of the men who have seen many other natural products—indigo, alizarine, camphor, vanillin—all eventually fall before the ingenuity of the chemical industry.

* * * * *

In the coming peace to which we look forward hopefully, we shall find a new world full of new materials, new conveniences, new jobs, new opportunities, all stemming out of the present-day work of the chemical engineer. The same tough, transparent plastics that now make noses for bombers will give us new frameless windows for our homes and automobiles. With capacity to produce at least 2½ billion pounds of aluminum, which is five or six times pre-war production, and a magnesium capacity 50 or 60 times the pre-war figure, many new uses will develop for these structural materials of great strength and amazing lightness. Almost anything that flies, runs, moves, or otherwise is motive, will have a place for them. New fibers such as nylon and vinyon had scarcely got started before they were put to war use. Once the war is over they will be with us in greater abundance and at lower cost for a variety of uses so vast and so diverse that we can scarcely imagine them.

And the chemical engineer continues to create and to invent. He meets the challenge of scarcities and shortages with ever new "substitutes" that excel their originals. Even before the war is over he will have placed at our command a hundred new materials which we did not have before. His workshop is all industry. His contributions are as limitless as are our needs.

But right now his all-important job is to help win the war; to fight to a finish the ruthless and resourceful enemies that are devoting all their science and technology to bring about our defeat. So, as we take stock of our assets in this desperate struggle, we count among the first the proved resourcefulness of the research-minded chemical engineers we now have mobilized to help us fight this chemical war.

James H. McGraw, Jr.

President, McGraw-Hill Publishing Company, Inc.

This is the fourth of a series of editorials appearing monthly in all McGraw-Hill publications reaching more than one and one-half million readers.

TEXTILE WORLD

DOUGLAS G. WOOLF, Editor

Textile-Machine Shops Go to War

THERE HAS ALWAYS BEEN a close community of interest between the textile manufacturer and the textile supplier. The makers of textile machinery, accessories and supplies are an integral part of the textile industry. In fact, they have been responsible for much of the research and development work which have made textile manufacture increasingly a precision industry.

More than that, the representatives of the supplying firms are buddies of the executives and operating men in the mills. They are first-name friends, both in the plants and at conventions.

Consequently, when the textile-machinery industry goes to war—as it has—there is a break in this tie of intimacy which leaves the mill-man sort of lost and bewildered. His bewilderment may even extend to resentment. He is so used to being able to get what he wants when he wants it that he cannot grasp a situation in which there just isn't any, any more.

He is vaguely aware that the textile-machine shops have been "converted," but his own plant too has probably been "converted" to war work. He doesn't recognize the difference between the two forms of conversion. His plant is still making yarns or fabrics, even if for a different use. Whatever margin he has left can be continued on civilian work.

The textile-machinery manufacturer, on the other hand, undergoes a change of life. He must start producing items completely foreign to his normal product, requiring a complete change-over. His conversion to war means a desertion of his regular customers. The degree of conversion varies—let's say—from 25% to 100% but, whatever the degree, there is no such flexibility in the converted part as there is in a converted textile mill. He cannot switch back and forth between military and civilian products. Once all-out, he is all-out for the duration.

THE TEXTILE MANUFACTURER, in war-time, continues in the same basic groove which he followed in peace-time, and he will continue in that groove after the war. The textile-machinery manufacturer, on the other hand, faces a re-conversion problem, after the war, of very serious proportions. Certainly, he cannot continue to manufacture munitions and auxiliary war material. He must get back to his regular business: that of supplying the textile industry with its equipment and accessories.

Therefore, during the war period, and the post-war re-conversion, textile mill-men should acquire an intelligent understanding of the problems facing their supplier friends.

The latter, on the other hand, should realize—as undoubtedly they do—that their main stake is in the textile industry, and that every effort they can expend now, within the limits of the war effort, on making repair and maintenance parts readily available, and on supplying maintenance information to their mill-customers, will be repaid with compound interest after the war. Their salesmen should be retained on their regular routes. Their promotional and advertising programs should be intensified rather than abated.

That they are aware of this opportunity and responsibility is revealed by the fact that several of the larger textile-machinery manufacturers, in response to requests from mills for equipment surveys, have sent their factory service men to go over the mill, machine by machine, inspect and check and make a report on each individual machine. This has been valuable in the war effort by assisting the mills to keep their equipment at top production.

THE TEXTILE-MACHINE SHOP has gone to war. It is doing a swell job, as "E" awards testify. It will come back to its peace-time role after the war. It and the textile mill will resume the erstwhile close relationship as promptly as possible. The time-factor will be shortened immeasurably by the maintenance of that relationship, insofar as possible, during the duration.

Douglas G. Woolf

THE EDITOR SAYS

Zoot—Juke—Give; Jive—Swing—WPB

"Jettison the jive and give with the ears." That's an Associated Press interpretation of a statement made by no less a person than Frank Walton, deputy chief of WPB's textile branch.

If you don't know—as we didn't—what a zoot suit or a juke coat is, read your daily paper for further details. They were on the front page of a New York paper, swinging along with Rommel and Ruml and Stalingrad.

When the history of this war is written, it may be recorded that one of the reasons why Hitler was beaten was that the AP, with its back to the wall in a Federal anti-trust law suit (don't confuse this with a zoot suit), could still give. And how it gave! Here is the dispatch complete with heading:

WPB Hits Blue Note on Zoot Suits

WASHINGTON, Sept. 3—You jitterbugs in the zoot suits with the drape shapes and the juke coats are also in a jam—so jettison the jive and give with the ears while the War Production Board swings out on the down beat.

Hitting the blue note softly, this is it:

Male rug-cutters with long coattails, baggy knees and chest-high britches are due for a scissors session. And the gal gates with low-slung jackets are slated to meet the same Uncle Sam shears.

Frank Walton, deputy chief of WPB's textile, clothing and leather branch, says these "so-called garments," as he puts it, violate the men's and women's clothing simplification orders.

The men's zoot suit is a hep-cat's garb and the coat is something sharp. It swirls from knee to ankle-length and flips when the tune gets peppy. The trousers are ankle-snug and loose at the knees—like Podunk's track team's sweat pants—and rise so high that a gun in the belt could be worn like a shoulder holster.

The juke coat is a solid set of thread. It's a women's jacket, cut long to look like the men's.

Mr. Walton says that the "spreading craze" is a waste of fabric, and unpatriotic when "we have a war on our hands that requires saving all the cloth" for "our soldiers and sailors and for necessary civilian clothing."

"We are going to recommend that action be taken against all manufacturers found violating these orders, as well as distributors handling these suits and coats," he said.

So that's the tune, and in this pleatless, tuckless, cuffless day, it may have a hearty chorus.

Swing those scissors, gates!

* * *

What price Thesaurus on a 1942 textile editor's desk? He needs something else—either a young assistant who knows that a zoot suit is a hep-cat's garb, or else a little personal experience. And the latter would be sorta hard on middle-aged joints.

And, to crack a mid-Victorian joke, a joint is a dive. But that doesn't help us with jive—or juke.

Swirl away now while this textile editor gets ready to GIVE—up.

Rubber: A Symbol

Months age we wrote a piece in these columns calling attention to the delay in facing the critical rubber situation. We referred to actual figures on the rubber shortage which had been given us "off the record" in Washington and stated that those figures should be in the possession of every man, woman and child in this country. We concluded that immediate nation-wide gas rationing was the answer, not to save gas but to save rubber.

And now, months later, the special committee appointed by the President recommends, among other things, nation-wide gas rationing.

For all these long months every responsible individual in the Government has known in his heart and soul that nation-wide gas rationing was absolutely necessary. And yet we go through the formalities of appointing a committee to tell us what we know. And more months will pass before ration books are printed; probably an effective plan will be realized on or about the first anniversary of Pearl Harbor.

Twelve months lost! Twelve months, preceded by years in which the Army and the Navy and WPB and Ickes and the President *knew* that war with Japan would mean just this immobilization of America via rubber shortage.

It is impossible to over-play this rubber issue. Because, in essence, it is a symbol of our successive defeats. If we, as a nation, cannot even get on top of that one emergency, how in hell can we beat the Japs and the Germans who are shooting straight for victory even at the cost of all their man-power, and the starvation of all the rest of their populations?

If it takes us a year after the treacherous attack at Pearl Harbor to solve just one problem, how many years will it take us to solve the many other urgent problems? How many more committees do we have to appoint to tell us what we already know? And what will happen to us in the meantime?

Some say we are soft. The boys whom we parents are throwing into the carnage are not soft. The soft spot is a leadership which doesn't lead: which waits and waits and waits, while those boys are being killed.

Rubber, on which America moves, is proving to be a symbol of an America stuck in the mud.

Buy Now!

This is about bonds: about war bonds.

Much has been written and sung and said about the patriotism of the bond-buyer. To this writer, all that emphasis seems unnecessary. If a man or a woman or a child is not patriotic enough to buy war bonds to the limit, then no campaign nor ballyhoo is sufficient to sway their decision. The group that will not buy war bonds because of lack of patriotism is too small for any of us, except the F.B.I., to worry about. And, from what we've seen and heard and read about the F.B.I., and its chief, J. Edgar Hoover, that group will be taken care of!

But what about the other almost 130,000,000 people?

They are all patriotic, all desirous of seeing America win. The only thing they need is a little push—a sales push. They need what every good salesman possesses: the final incentive to the dotted-line.

And to those 130,000,000 people, this writer suggests that war bonds are not alone a patriotic commodity, but also the best financial bet anyone could hazard.

Common stocks, by way of tax payments, will become increasingly less desirable. War bonds, by the same token, will become increasingly more desirable.

The best job an employer can do for his employees' *own interest* is to get as near 100% subscription to the 10% payroll allotment plan as is humanly possible.

Buy now—to save, to protect your investments, to safeguard America!

(Left) Sandal developed by U. S. Rubber Co. for protection of outer surface of an old tire (see front cover). (Right) "This looks strangely familiar," says Miss Dorothy St. Lawrence of Providence, R. I., as she holds a folded cotton cord inner-tube protector which Firestone has just developed to guard against the chafing action of cuts and breaks in the cord bodies of damaged tires. See front cover for view of the "girdle" in place.

"Girdles" and "Sandals" for Tires

Two developments promise relief, and also offer new outlets for cottons

TIRES ARE GETTING all dressed up nowadays. Two separate developments in the fight to get on top of the tire-shortage crisis provide both "sandals" and "girdles" for the protection of these precious possessions. The former have been developed by the United States Rubber Co., and the latter by the Firestone Tire & Rubber Co. Both are shown on the cover of this issue of TEXTILE WORLD.

From the standpoint of the cotton-textile industry, this dual event has a special significance quite apart from its relation to the national shortage. Both the "sandals" and the "girdles" are made of cotton fabric, and thus represent new outlets for cotton both now and after the war.

THE DEVELOPMENT of a "tire sandal," made of non-strategic materials and treated with an asphalt emulsion, was disclosed by United States Rubber Co. scientists as a possible relief for the civilian tire situation. Present tests conducted by the company indicate that these "sandals" will give from 2,500 to 3,000 miles of additional life to tires.

The "sandal", developed jointly by Bigelow-Sanford and U. S. Rubber, is made of cotton pile fabric and is a carpet-like material, somewhat resembling a closely stitched bath mat or rug. The material is being woven at the Thompsonville (Conn.) plant of the Bigelow-Sanford Carpet Co., while the asphalt emulsion treatment is done at one of the plants of the United States Rubber Co.

For efficient use of this material, it is necessary to carry 40 lb. of pressure in the tires and limit the speed of the vehicle to 30 miles per hour. The company also feels it advisable to have the "sandals" mounted by a competent tire service man. The "sandals" will be wrapped around tires, with "ears" tucked in between tire and rim.

Production plans call for the manufacture of the "sandal" in popular passenger car sizes and further development will be continued to obtain a material suitable for light delivery trucks.

It should be recognized that the "tire sandal" is not as practical nor as cheap as recapping or building new tires but, whereas rubber would be allocated to military purposes and would therefore not be available for civilian tire use, production of this carpet-like material would be virtually unlimited. This material could be used by the armed forces for tires on portable air compressors, bomb carriages and civilian defense fire carts, etc., but would not be feasible for use on the Army's motorized equipment with present day high speed requirements. Credit for the development of this "sandal" goes to Martin Castricum of the Tire Division's Development Department. Mr. Castricum, whose picture is shown on the front cover of this issue, is well known in the textile industry through his work on

Committee D-13 of A.S.T.M., and other technical organizations.

SOMETHING OF AN INNOVATION and a direct outgrowth of the nation's rubber emergency is a new cotton-cord protector for tire inner tubes that will add thousands of miles to thousands of old tires already pronounced unfit for use and ticketed for the scrap heap. Although this new inner tube protector, developed by Firestone Tire & Rubber Co., bears marked resemblance to that piece of feminine apparel known as the girdle, its purpose is not to enhance the smooth symmetry of the tire's appearance, but to insulate and protect the tube against the chafing action of broken or otherwise damaged inside plies in the cord body of the tire. The "girdle" contains no rubber and is shaped in a full circle to fit snugly and neatly around the tube.

In actual tests this new product has proved effective. Even in extreme cases where the cracks and cuts extended entirely through the cord body of the tire, the "girdle" has afforded the tube complete protection from chafing. In one test, Firestone engineers used an old tire which had been run flat and supposedly was beyond use because of the damaged condition of the inside of the cord body. To make the test as severe as possible, a knife was used to cut entirely through the sidewall of the tire in four different places. A tube, incased in a "girdle" was then inserted in the slashed tire, and placed in service.

This worn and slashed tire, already condemned for use, was then run under excessive flexing conditions for an additional distance of 4055 miles before failure occurred. An examination immediately after this failure disclosed that the "girdle" had protected the tube perfectly against the chafing action of the cuts and breaks, and the failure was caused by a section weak spot in the worn tire.

A THIRD ITEM in the news last month brought new hope to tire users, and the possibility of new markets to cotton manufacturers. Tires fabricated from cotton and cotton products are envisaged by John Leahy, director of the Texas Cotton Research Committee.

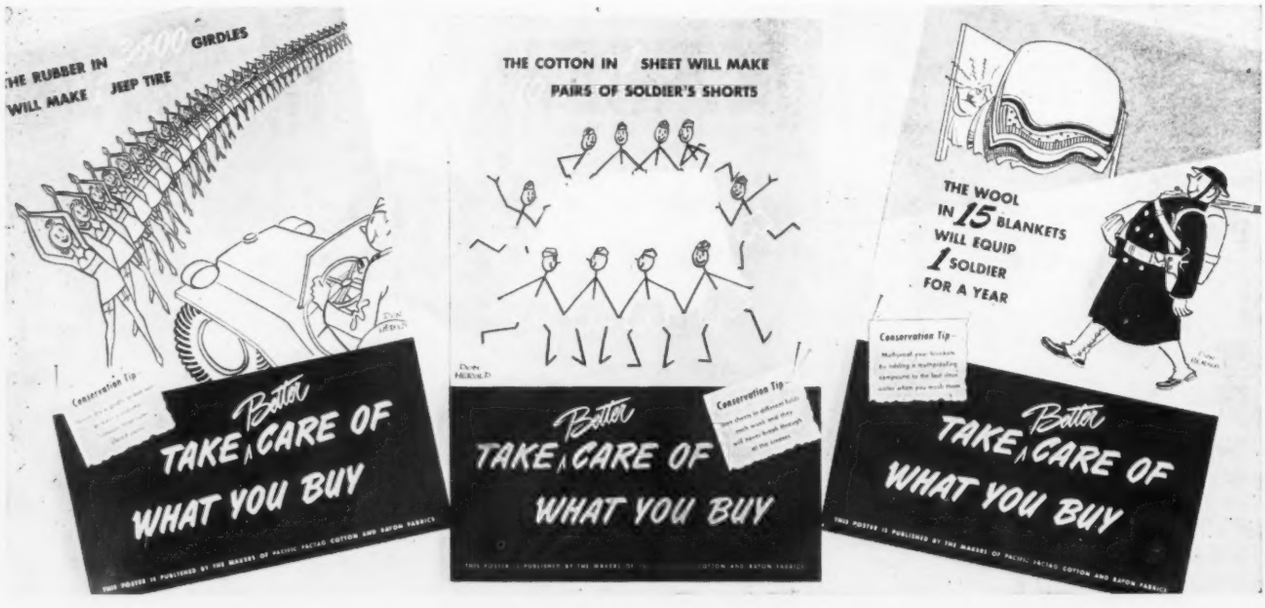
"Our research to date has not advanced sufficiently to produce a tire forthwith," Mr. Leahy said in a report reviewing the committee's activities in the first year of its operation, "but progress thus far warrants highly optimistic expectations.

"I am confident that before too many tires fail on automobiles now in use, the research activity provided for in the Moffett cotton-research act will supply the tractive surface necessary to keep cars and trucks rolling.

"This material will come from cotton and its by-products."

Mr. Leahy said the committee's research is developing along lines which contemplate continued use of conventional methods of fabricating tires from cotton cord, but instead of rubber a specially compounded product of cottonseed, in no respect akin to synthetic rubber, will be used.

Posters Forward Cause of Wartime Conservation


THE RUBBER IN GIRDLES
WILL MAKE JEEP TIRE
Conservation Tip
Better TAKE CARE OF WHAT YOU BUY
THE COTTON IN SHEET WILL MAKE
PAIRS OF SOLDIER'S SHORTS
Conservation Tip
Better TAKE CARE OF WHAT YOU BUY
THE WOOL IN 15 BLANKETS WILL EQUIP 1 SOLDIER FOR A YEAR
Conservation Tip
Better TAKE CARE OF WHAT YOU BUY

PACIFIC MILLS has issued a series of twelve dynamic war conservation posters designed especially for retail store use. Pacific contributes this to the war conservation effort.

The key words on every poster which are directed to the ultimate consumer are "Take Better Care of What You Buy." Each poster carries a different message, not confined to the products of Pacific Mills alone, but planned so they can be used in all departments and on all floors in retail stores. In addition to the three posters shown above, slogans on those referring to textiles are:

The cotton in two mattress covers
Will make one army shelter tent.

The wool in one woman's sport suit
Will make 13 army overseas caps.

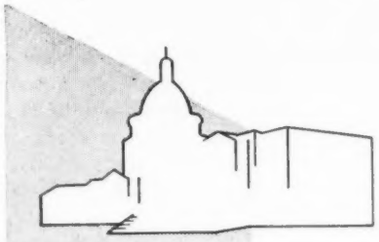
The cotton in one summer suit
Will make one soldier's work outfit.

The silk in 185 pairs of stockings
Will make one army parachute.

The jute in one room-size rug
Will make 46 sandbags.

In a separate section on each poster is a "Conservation Tip," which gives the reader one important point of special care for the merchandise illustrated, so it will give better and longer wear. The posters are printed in three colors; red, dark blue, and copenhagen. Bartow H. Underhill, advertising director of Pacific Mills, is sending them to retailers on request without charge.

WPB Tightens up Its Controls



New chiefs over production schedules and materials—Foresee 10 million army

McGRAW-HILL WASHINGTON BUREAU

PAUL WOOTON, *Chief Correspondent*
Blaine Stubblefield — Robert Colborn
Carter Field — Irvin Foos — M. G Maury
Dorsey Adams — George E Doying, Jr
J. C Stark — Richard K LaBan
Malcolm Hobbs — Hunter Snead
E. H Martin — Malcolm Burton

By BLAINE STUBBLEFIELD

WPB REORGANIZATION is tightening control over the scheduling and flow of materials to war production. Plant expansion, apportionment of materials under the priorities system, and various gun, tank, ship, plant programs—all over-ran the supply of materials.

Estimates and surveys notwithstanding, WPB's materials ladle scraped bottom, and now the war machine is down to rations. Charges that Nelson yielded to pressure for too many projects, that Army and Navy procurement men were profligate with preference ratings, however true, have done their work.

Reorganization centers around Nelson's appointment of Charles Wilson, of General Electric, and Ferdinand Eberstadt, civilian chairman of the Army and Navy Munitions Board, as vice chairmen of the War Production Board. Nelson is an organizer and planner of highest caliber. But his critics say he is not hard enough to execute his plans over the feelings of his associates.

Wilson is now the top man, exercising Nelson's full authority, over war production. It is his job to see that all schedules are met. He is also chairman of the new Production Executive Committee, which consists of the chiefs of supply for Army, Navy, Air Force, and Maritime Commission.

Eberstadt, also wielding Nelson's full powers, has entire responsibility for regulating the flow of materials. As chairman of WPB Requirements Committee he will control the broad allocation of raw materials, and, through Ernest Kanzler, Director General for Operations, who reports to him, he governs routing of materials to industries.

Nelson is a conscientious man; he voluntarily called the other two men to help him. If he finds they can do better than he can, he will give them a bigger share of his job.

This shift of authority will not directly affect the textile industry. But indirectly, the industry will feel a tighter grip on its part of the war program; it will feel more concern for the military, and less for the civilian.

Future Army procurement—Selective Service Director Lewis B. Hershey suggests that the Army may total 10,000,000 men by the end of 1943, a little more than double its estimated present strength. While large reserves of both cotton and wool military textiles have been laid in by the Quartermaster, there is no decline in procurement in sight. The Navy too is steadily adding manpower as training schools and airplanes and ships are put in service. The hard-pressed Soviet is reported calling for more and more lend-lease wool goods, and may call for cotton goods. The flow of cotton-textile supplies to Australia and other Allies is increasing.

Long-staple cotton control—The War Production Board has taken complete

Donald Nelson

Charles Wilson

Ferdinand Eberstadt

THE ARSENAL OF DEMOCRACY is now managed by this triumvirate: Nelson the merchant, Wilson the electrical equipment maker, and Eberstadt the banker. Their job is to deliver the required war equipment by setting and holding a tight schedule on the flow of materials. Shortages are in plain sight, regardless of past surveys and estimates.

control of long-staple cotton, mostly from Egypt and the Sudan, used to make cloth for balloons, airplanes, life rafts, parachute shroud lines, and civilian goods. An order on June 30 imposed restrictions on importation of foreign cotton, but it did not control withdrawal from customs, the point at which the quota is placed. Result was that customs cotton unsuitable for war purposes could be released in such quantities as to close the quota on essential cotton which might not yet have been landed. Another old order specifies the uses to which Egyptian cotton can be put. But this newest order, M-236, says that no imported long-staple cotton will be allowed to enter the U. S. for consumption or be withdrawn from bonded warehouses without authorization of WPB. The order affects about 150,000 bales of long-staple, either in customs or due to arrive. During the year beginning Sept. 20, 91,300 bales can be withdrawn.

Army is choosy—Rep. Hampton Fulmer, House Agriculture Committee Chairman, and a spokesman for the American Cotton Shippers Association, both have told the Quartermaster Corps it should buy shorter staple cotton whenever it would serve the purpose, rather than insist on scarce grades. Fulmer says the better grades are used even in lend-lease specifications. In response to inquiry, TEXTILE WORLD is told by QM officials that Army does not specify or buy cotton. It simply writes breaking strengths into its cloth specifications. QM believes that the large crop and carryover of cotton will provide enough high grades to meet requirements. In several cases, however, breaking specifications have been lowered.

The Quartermaster feels that its job is to provide serviceable textile goods as long as they can be had. When, and if, offers fail to cover bid invitations under existing specifications, the Quartermaster will change them.

If you wanted to argue in support of the Army's position, you could point out that the current supply of cotton is 23.4 million running bales compared with 22.6 last season; that the Bureau of Census as of Aug. 1 estimated the carryover at 10.5, a decline of only 1.6 from August 1941; and that the 1942 crop is 12.9 million bales, compared with 10.6 last year. These are Department of Agriculture figures.

Assignment of preference ratings—Heretofore, preference ratings have been assigned to military orders by Service procurement officers in the field on the basis of broad directives. A letter from WPB Chairman Nelson to Army, Navy, and the Munitions Board directs that after Sept. 7, authority to assign ratings on individual contracts will rest with WPB district offices. Specialists have been sent to the district offices to expedite this program. But so far as the Quartermaster is concerned, ratings are still assigned, as in the past, by Army contract officers. QM is complying strictly with the new order, however, by having such ratings validated by a representative of WPB.

QM procurement abroad — Recent reports have stated that the Army is procuring various items of clothing and equippage for U. S. soldiers in countries where they are serving, to save shipping space. To make certain of the facts, TEXTILE WORLD has inquired directly of Gen. C. L. Corbin, Chief of QM supply. The General says that the Army is obtaining textile supplies, on a reverse lend-lease basis, in England and Australia. But these transactions cannot make very much difference to U. S. textile industry, because its production for outward-bound lend-lease far outweighs any reverse lend-lease in textile products. General Corbin said he could not give any figures, but that the Army will take whatever volume these Allied sources can produce without denying their own armed forces and their civilians.

Other QM officers said that the foreign procurements include some finished uniforms, blankets, tents, etc. Australia has plenty of wool, but it is short of textile machinery. England has plenty of plant capacity, but, since all United Nations shipping is pooled, there's not much point in saving our own ship space when England has to import nearly all its fibers in ships.

Controlled manpower—Second only to materials shortage is the impending, long-anticipated shortage of men. Here is a little shocker for you. There are about 28,000,000 men between the ages of 18 and 45—usually regarded as the working age. About 13,000,000 of those men are physically fit. By the end of 1943, the Army and Navy will have taken all but two or three million of them into service, perhaps all of them. The remaining two or three million fit men, if any, plus the 15,000,000 physically defective men, plus men over 45, will make up the total working force of this country in this war.

Cherchez la femme. Women will fill the millions of additional jobs at home, in the plants and in the Services. Manpower Commission says that employers must make up their minds that womanpower is their only salvation.

But to work available manpower most efficiently, control is being tightened. Now, the Commission, working with the United States Employment Service, is beginning to check every man jack. They have already tabulated some of the draft questionnaires, and before long will have processed them all. So far, only "suggestions" are made to men seemingly in the wrong jobs.

For your notebook—A Government document recently mentioned "rayon for parachutes." This appears to be the first report that chutes are made of anything but Nylon and silk. . . . Air conditioned sox for desert and jungle wear are announced by Quartermaster. They're made of 50-50 cotton and wool, knit in a loose, porous stitch. The job took months of experimentation. . . . Army announces a mosquito-proof tent for mountain troops. It has a built-in floor to keep out all members of the bug family, is made of special lightweight Nylon, weighs 7 lb. as compared with 14 to 15 lb. for the regular canvas pup tent. . . . In Panama and Costa Rica, in accordance with recommendations of the Combined Raw Materials Board, they're clearing several hundred acres of jungle per week and planting it to manila fiber plants. We can't eat without binder twine, or fight without rope. The Japs took our only supply of manila, in the Philippines and the Dutch East Indies. Panama-Costa Rica planting now totals 16,000 acres toward an ultimate 20,000.

Textiles, Leather and Apparel Division of the Office of Price Administration has been reorganized on a temporary basis. OPA officials told TEXTILE WORLD at press time that further changes will be made in the near future. In place of the three previous sections, eight specialized price sections are called for under the new temporary setup. Bernard E. Haley, acting director of the division, announces that Charles A. Marquardt, formerly administrative officer of the branch, will serve as assistant to the director, in charge of textiles and leather. An assistant in charge of apparel was still to be chosen.

The eight price sections and their acting heads are: cotton, John F. Van Ness, with Hilding Anderson acting head of a cotton ginning unit in this section; wool, Russel Barrus; rayon, J. Holmes Daley, with Frederick Niederhauser acting head of a synthetic yarns unit; leather, John H. Patterson; men's apparel, Theodore Rothschild, with E. Glenn Elliott acting head of a work clothing unit; women's apparel, Sydney Shreere; knitwear and hosiery, George Urlaub; shoes, Edgar Rand. Further reorganization may result in more or less than eight sections.

An economic analysis branch has been set up to replace the three separate economic research units which had served the three previous sections.

Addenda to Textile War Manual

PRICE CEILINGS AND AMENDMENTS BY OPA

Bubblfil—OPA on Sept. 23 authorized a ceiling price of $1.25 a pound for "Bubblfil", a rayon yarn newly developed by E. I. du Pont de Nemours & Co., of Wilmington, Del., as a possible substitute for sponge rubber and kapok.

Burlap—Sellers of burlap shall use the War Shipping Administration's war risk insurance premium rate in calculating allowable charges to be added to maximum prices for this imported fabric, OPA announced on Sept. 18.

Carded Cotton Yarns—Reductions in manufacturers' ceiling prices for carded cotton sales yarns, base material for all of the more common grades of cotton fabrics, are announced Sept. 25 by OPA in a move designed to prevent increases in the prices which consumers must pay for cotton goods. Because OPA cost studies reveal that prices provided by the carded yarn price schedule (No. 33) are too high in relation to the prices established for combed yarns and for other cotton goods, maximum prices for carded yarn numbers of 20s and coarser have been cut by 1¼¢ to 2½¢ per pound for singles, and by 1¼¢ to 4¢ for plied yarns. Schedule No. 33 has been completely rewritten and is now reissued as Maximum Price Regulation No. 33 (Carded Cotton Yarns and the Processing Thereof), effective Sept. 28.

Carpet—Four carpet manufacturers are given permission to manufacture certain new floor coverings as war-time replacement for their usual wool carpet fabrics at maximum prices approved Sept. 23 by OPA. Prices for the substitute carpeting materials are authorized by OPA through the issuance of five separate orders under Revised Price Schedule No. 57 (Wool Floor Coverings) which took effect Sept. 24.

Cotton or Artificial Fibers—Classes of textiles for which a specified premium of 7% may be charged on export sales have been broadened to include practically all goods and yarns made of cotton or artificial fibers, OPA announced Sept. 12. Amendment No. 1 to the Revised Maximum Export Price Regulation makes these changes as applied to export sales of textiles to become effective Sept. 16: 1. It widens the definition of the goods affected; 2. It removes the distinction between the kinds of goods affected; 3. It eliminates distinction between types of exporters; and, 4. It allows the exporter the choice between the average premium prescribed by the general provisions of the regulation and the specified premium of 7% over the exporter's applicable domestic maximum price.

Cotton Bale Bagging—In Amendment 32 to Supplementary Regulation 14, OPA announced that effective Sept. 22, cotton oil mills may establish maximum prices for sales of cotton bale bagging to cotton ginners by adding to specific replacement costs and freight charges the customary markup of 5¢ per pattern complete with ties and 4¢ per pattern without ties.

Cotton Ginners—A provision prohibiting cotton ginners from supplying ginning services after Sept. 19, if they have failed to file a report required by MPR No. 211 (Cotton Ginning Services) on or before that date, was revoked Sept. 17 by OPA.

Cotton Linters—Sales of cotton linters and hull fibers by the U. S. or any of its agencies, are not subject to the pricing provisions of MPR No. 191 (Cotton Linters and Hull Fibers), OPA announced on Sept. 5.

Cotton Products—Any cotton textile product covered by MPR No. 118 (Cotton Products) falling within a fabric group for which specific dollars-and-cents maximum prices have been established shall be priced "in line with" the specific ceiling price for the most nearly comparable fabric, OPA announced Sept. 19. In such instances, the new method of determining maximum prices eliminates the necessity of having each producer resort to the general formula of the regulation when the product varies only slightly from the specifications of an enumerated fabric. It also stabilizes the prices for all products which fall within such fabric groups in accordance with the adjustments made in establishing the specific prices. When a producer establishes an "in line" price he must report certain information to OPA. This action is taken through Amendment No. 11, effective Sept. 24.

READERS who may desire to consult the original releases from OPA and WPB, which bear particularly on their businesses and which are summarized on these pages, may obtain such copies, as long as the supply lasts, by writing to TEXTILE WORLD's Washington office (at National Press Bldg., Washington, D. C.) specifying the title and number of the order.

Denim—Ceiling prices on two types of denim—a Sanforized finish and a type subjected to a water-repellent process recently specified by the QM for use in the manufacture of barrack bags—are provided Sept. 14 by OPA. Cents-per-yard prices are set forth for these two denims in Amendment No. 6 to RPS No. 35 (Carded Gray and Colored Yarn Cotton Goods) effective Sept. 12.

Fine Cotton Gray Goods—A manufacturers' ceiling price of 8⅞¢ per yard for the "base construction" of standard unfinished box-loom clip-spot marquisettes was established by OPA on Sept. 19, as it added certain types and specifications of these goods to Revised Price Schedule No. 11 (Fine Cotton Gray Goods). Amendment No. 4 to Schedule 11 provides for producers and mill selling agents specific maximum prices which in most instances are somewhat lower than those established by each individual producer under the general regulation.

Finished Piece Goods—Converters of finished piece goods who may erroneously believe they are entitled to a larger margin because they produce fabrics for higher-priced dresses, were advised Sept. 9 by OPA to study the strict requirements of MPR 127 for filing petitions for adjustment of ceiling prices before concluding that they are entitled to receive relief. Overcharges which a converter may have made as a result of the interim relief granted by filing a petition for adjustment must be refunded when OPA has taken final action on the petition.

Knitted Underwear—Ceiling prices for fall and winter knitted underwear are

Addenda to Textile War Manual

established for manufacturers and for retailers and wholesalers through two price actions announced Sept. 15 by OPA. Because comparatively few manufacturers delivered these winterweight garments last March, OPA issued a new order (MPR No. 221—Manufacturers' Prices for Fall and Winter Knitted Underwear). The regulation establishes prices for the industry on the basis of levels at which a few manufacturers made advance shipments of these goods last March for the coming season. These were manufacturers' "January 1942 opening prices."

Print Rollers—Engravers of print rollers for textile printing were cautioned Sept. 12 by OPA that they may charge for their services no more than their highest charges for the same similar service rendered during March, 1942.

Rags—Monthly reports are no longer required of suppliers, dealers and purchasers who sold or bought 10 tons of old rags in any one month, OPA announced Sept. 14 in Amendment No. 3 to RPS No. 47 (Old Rags).

Rayon Hosiery—One manufacturer of a style of women's full-fashioned rayon hosiery not delivered during March 1942, is allowed to establish a maximum price on the basis of his ceiling for plain rayon hosiery plus the additional cost of producing the new stocking, OPA announced Sept. 17.

Rayon—Converters of rayon yarn were advised by OPA on Aug. 28 to study and comply with the charges and differentials allowed for specific converting operations under MPR 168 (Converted Rayon and Converting Charges). Producers of rayon yarn and staple fiber are permitted to choose the carrier by which a shipment is to be made and to charge interest for delinquent accounts under the terms of Amendment No. 1 to MPR No. 167 (Rayon Yarn and Staple Fiber), announced OPA on Aug. 31. Because of the sharply increased demand for rayon yarn, OPA on Sept. 17 permitted the National Rayon Corp., Cleveland, Ohio, to sell its production of 300 denier viscose process rayon yarn at 65¢ per lb.

Sheeting and Print Cloths—A premium of ½¢ per yard may be paid for sheetings or print cloths where made for use in products manufactured to U. S. Army specifications which require synthetic resin-coated sheetings or print cloths, OPA announced Sept. 16.

Silk and Nylon Hosiery—In order to stimulate carload lot sales of used silk or Nylon hosiery to the Defense Supplies Corp. under a program now being completed, OPA on Sept. 17 set a maximum price on such sales at 3½¢ per lb., f.o.b. loading platform of common carrier at seller's shipping point.

Wool and Wool Tops—War risk insurance rates used in adjusting maximum prices for wool and wool tops must not exceed the low rates offered by the War Shipping Administration, OPA ruled Sept. 24, as a means of passing on to consumers the full benefits in saving on war risk insurance. Amendment No. 8 to RPS 53 (Wool and Wool Tops and Yarns) recognizes that insurance coverage by the War Shipping Administration available to all importers under open policies is at rates which are below the rates of commercial companies. With certain exceptions, the adjustments to the official rates are applicable only to shipments of wool which are evidenced by ocean bills of lading or similar documents dated on or later than Sept. 30.

PRIORITIES AND ALLOCATIONS—AMENDMENTS BY WPB

Agave—No agave fiber will be permitted for production of ordinary wrapping twine after Sept 31 under provisions of an order announced Sept. 7 by WPB. In Amendment No. 2 to Order M-84, covering agave fiber and products, the WPB took steps to make sure that available agave fiber will be used only for essential war purposes.

Cotton Linters—The country's total supply of cotton linters was directed by WPB on Sept. 2 to be sold to Commodity Credit Corporation exclusively by the terms of Amendment No. 1 to General Preference Order M-12 as Amended. The amended order makes it illegal for any person other than Commodity Credit Corp. to accept delivery of linters, and cotton linters may not be delivered to any person without express authorization of WPB. The restrictions imposed by the amendment do not apply to linters produced or acquired to Aug. 1.

Cotton, Raw—The withdrawal from Customs of imported long-staple cotton was put under complete control on Sept. 10 by WPB. The action affects about 150,000 bales of long-staple cotton, either already in this country in bond under customs regulations, or due to arrive here shortly. The amount that can be withdrawn from the stocks in bond in the year beginning Sept. 20, under present quota regulations, is only about 91,000 bales. Imported long-staple cotton is defined as any imported raw cotton with a staple length from $1\frac{1}{8}$ to $1\frac{31}{32}$ in. inclusive. Under provisions of the order (M-236) no imported long-staple raw cotton will be allowed to enter the U. S. for consumption or be withdrawn from bonded warehouses without authorization of the Director General for Operations. This authorization, a copy of which must be filed with the entry or withdrawal of any of the imported cotton, will be granted on Form PD-644. This action results in complete control over the importation of long-staple cotton, to assure ample supply for war plants and essential civilian use through elimination of possible congestion of entries due to tariff quota limitations.

Cotton, Staple—Restrictions on the sale and delivery of American extra staple cotton and imported Egyptian cotton are relaxed in Conservation Orders M-197 and M-117 as amended by WPB on Sept. 2. The changes will eliminate much paper work. Under the amended orders, WPB authorization for the sale or delivery of such cotton from one merchant to another is not required. Restrictions are limited to the use of such cotton by manufacturers, who may use the reserved cotton only for making items for the Army, Navy, Maritime Commission or the War Shipping Administration, except that mills are given 45 days in which to fill civilian orders on hand when the amended orders were issued. Special permission to use the reserved cotton for these approved orders is not required.

Elastic Fabric—Restrictions on sale, distribution and use of elastic fabric, rubber, yarn and elastic thread are tight-

(*Continued on page* 132)

Tower of Babel Yields to Pressure

Amidst confusion of voices, Washington is slowly developing a war pattern

By DOUGLAS G. WOOLF

WASHINGTON is still a Tower of Babel. The confusion of tongues in the National Capital is as marked as if the responsible officials were all talking different languages. A direct hew-to-the line war-leadership is still missing. Pressure groups are still in the saddle.

And yet, out of his latest contacts there, this writer discerns the beginning of a pattern; the start of a move toward all-out toughness. The trend is the direct result, this observer believes, of pressure from the country at large. Actual results are still too little; as time passes, they may prove to have been too late.

First, as to the confusion of tongues: Apparently there are two schools of thought in Washington. One believes it is necessary to scare the people into going all-out. The other believes it is necessary to keep their morale up by tales of victory.

And so we have Admiral Blandy announcing that "we have turned the balance of military and naval striking power in the Pacific," and Assistant Secretary of the Navy Bard warning that "we are still losing this war, period. And we should damn well understand it, period."

Both, presumably, are responsible to the Secretary of the Navy, period.

It does not seem to have occurred to these and other spokesmen that both schools are wrong. The American people want neither to be bullied into the war effort via bogey-man nor enticed into it via lollypops. They want the truth—or at least as much of it as is compatible with military strategy. That they are not getting it is evident from the above quotations, and from the front-pages of every day's newspaper. All these statements can't be true, because they contradict each other. And remember we are not referring to statements by Congressmen, who are subject to no censorship other than their consciences and the November elections. We are referring to statements by responsible members of the Administration who presumably are subject to the censorship of a national leadership.

The dispensing of war information to the American people seems to this writer to be as criminally faulty as it was before Elmer Davis took over. Whether or not it is Davis's fault, the writer does not know. But it is somebody's—and it should be corrected.

Nowhere did this writer find a surer indication of the floundering of Washington as a mouthpiece for the war-effort than in an impassioned speech made by a prominent Government official, *off the record*, to a group of editors. In essence he said that unnecessary ridicule of Washington is undermining the nation's war program. Let's grant that fifth columnists are at work, trying to ridicule Washington. That's a job for FBI. But the ridicule to which this official referred was the open criticism by responsible editors, columnists, commentators, and others. If Washington can't take that type of criticism, it is just too bad.

NOW TO COME to more pleasant news: the slow emergence of a unified determination in Washington to do some of those things which are now 10 months over-due since Pearl Harbor.

First, there is rubber. At long last, a committee was appointed, a swell report was rendered, and nation-wide gas rationing is in the cards. The fact that as early as last April this writer found among responsible officials complete conviction that there was no other way than that to keep America moving is now history, and sorry history. The now-important fact is that we have come to it—effective after the elections, incidentally.

Second, there is the question of farm prices and wages. The quick response of Congress to the President's ultimatum was a refreshing contrast to past delays. True, it "froze" prices and wages after most of the damage had been done and thus furnished another example of the "too late" school. From the very beginning of the attack on inflation, just this sort of action has been urged by those who knew the answers. It comes now to "freeze" the inflated levels resulting from that delay. But at any rate it is action, and leads one to hope that other deadlocks will be broken, now that a start has been made.

Third, there is a trend toward "getting tough" in the war-production zone. It seems now that WPB will exercise the powers which it has had since last January, and be the arbiter in the settlement of conflicting demands from Army, Navy, Lend-Lease, essential-civilian agencies, and other quarters.

THESE THREE GAINS must not be under-rated. They represent a part of the program visualized as necessary by many competent authorities.

But there is still much to be done.

There is, first, the need for an over-all man-power policy. Too many agencies are nibbling at it. Once again, it needs national leadership.

There is, second, the tax program. That should have been settled long before this. It is still bouncing around like a rubber ball. Tied up with this are the question of a national sales tax and the adoption of the Ruml pay-as-you-go plan. Both are logical, both are vital.

There is, third, the need for extending the selective-service act to the 18 and 19 year old groups, for immediate training.

There is, fourth, the need for a brutal rationing of all commodities whose present or potential scarcity affects the war effort and the civilian morale. Plans are in the making but will they be too late?

There are other items, specified by this writer in previous issues, but at the least we should get the above in the works, now.

It would be unfair to Washington to dwell upon these deficiencies if their remedy depended upon the attitude of the American people, or even upon Acts of Congress. Actually, however, a start on many of the needed steps could be taken by executive action, under the emergency powers the Administration now possesses. That is not the ideal route, in a democracy, but war is not ideal. Pressure groups can impede Congress, but they can be ignored by the executive branch.

Less double-talk, plus double as much action, is a good cue for Washington.

Relighting for War Schedules

Southern mill replaces obsolete system with modern fluorescent installation

Of vital interest to executives in every mill where production of textiles for war purposes is being hindered by obsolete lighting is the following condensation of an article by W. T. Stuart, which appeared originally in the August issue of *Electrical Contracting*. It is important to note that since this article was written the materials situation has grown tighter. For this reason, textile manufacturers applying on a PD-1A Form for preference ratings for new lighting equipment must show just how installation of such equipment will aid the war effort and, in addition, must submit a supplementary form—similar to that published on page 35 of the July issue of *Electrical Contracting*—giving detailed descriptions of the area to be relighted, existing lighting conditions, proposed new installation, and wiring changes required.

Conversion to war production included modern fluorescent lighting in this weave room; new units are cord connected, rod suspended, on 9-ft. centers 10 ft. above floor; old lighting units and part of old wiring system had not been removed when photograph was taken.

IN A SOUTHERN MILL which converted from one-shift operation on white cotton materials to round-the-clock production of military fabrics, high-speed production to exacting specifications was hindered by a lighting system belonging to another generation. New and modern lighting was installed, new wiring was required to serve it. And the job had to be done while metals grew more scarce and priority rules tightened.

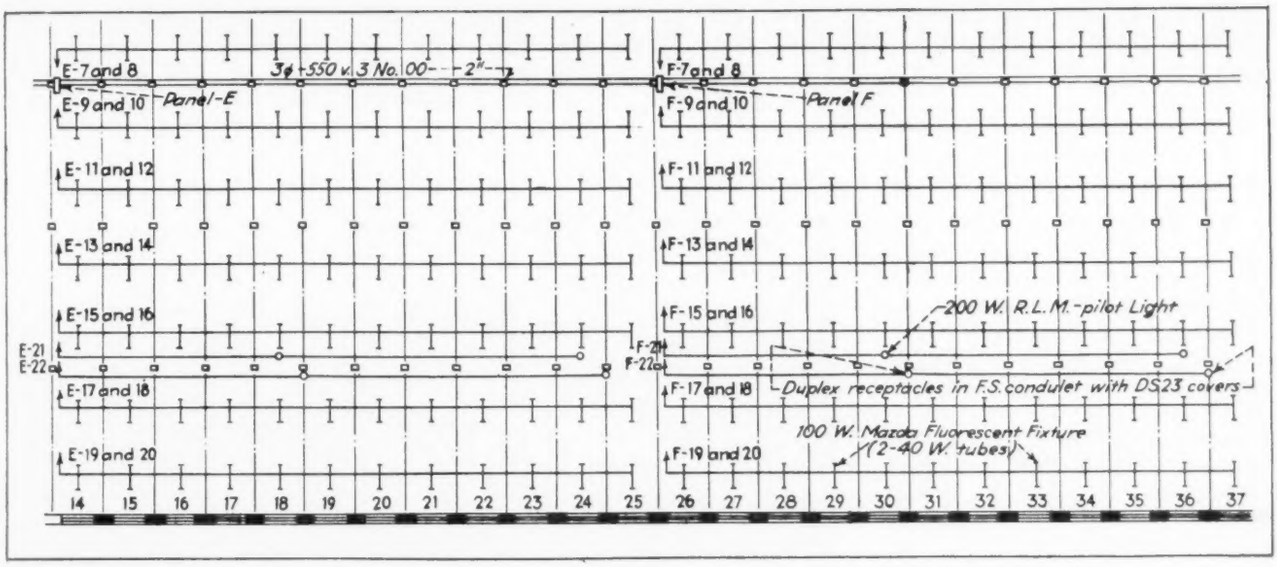
The plan called for relighting of a weave room built in two sections. The original room was built about 1900, 513 x 102 ft., and an addition was built about 1920, 441 x 127 ft. This room contains 1,836 Draper looms. The lighting system in the older section consisted of incandescent fixtures with three 150-watt clear bulbs in a cluster. The major portion of the new addition was lighted with RLM dome fixtures with open wiring. Intensities on the working plane were in the neighborhood of 1 to 2 foot-candles.

Installation of the first-high speed looms in this room in the early part of 1939 prompted an investigation of the lighting. Fluorescent lighting for this type of plant was just coming into prominence, and it was decided not to go ahead with a new lighting program until all data were in on the feasibility of a fluorescent job.

All tests were finally completed and it was decided to go ahead with a fluorescent relighting of the room, installing a conduit distribution system engineered to use the minimum of pipe and wire, with panelboards for the various sections of the weave room. Power would be supplied to each of these panelboards by an air-cooled transformer at each panelboard location so voltage drops would be minimized and small voltage variation obtained at the fixtures.

APPLICATION WAS MADE to the WPB for priority rating to obtain materials on Form PD-1A. As the work performed was almost exclusively on urgently needed military fabrics for the Army, the rating request was favorably recommended by the Textiles Branch of WPB, and routed to the Building Materials Branch. There it was analyzed in the Lighting and Fixtures Section to check whether the job was economical in its use of critical materials. On further data about the lighting scheme provided by the owners, the analysts recommended a rating to obtain the fixtures and wiring materials. The PD-1A form was returned to the owner with a serial number and preference rating.

For obtaining the necessary materials for both wiring and lighting fixtures the owners applied the PD-1A serial numbers obtained from the WPB to the orders issued to the contractor. The contractor in turn extended the serial number and rating to his suppliers with


E-7 and 8
3φ-550 v. 3 No. 00 - - 2" -
E-9 and 10
Panel-E
E-11 and 12
E-13 and 14
E-15 and 16
E-21
E-22
E-17 and 18
E-19 and 20
F-7 and 8
F-9 and 10
Panel F
F-11 and 12
F-13 and 14
F-15 and 16
200 W. R.L.M.-pilot Light
F-21
F-22
F-17 and 18
Duplex receptacles in F.S. conduilet with DS23 covers
100 W. Mazda Fluorescent Fixture (2-40 W. tubes)
F-19 and 20
14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37

Layout of part of the weave room showing arrangement of lighting fixtures and branch circuit routing.

his purchase orders for the materials.

J. E. Sirrine & Co., Greenville, S. C., were the engineers on the project; and Bryant Electric Co., High Point, N. C., were the electrical contractors. Bryant Electric Co. furnished and installed all apparatus, material and labor for the complete relighting job. This included a main primary disconnecting safety switch, a primary feeder, circuit breakers, dry type transformers, panels, branch circuits and lighting fixtures. The fixtures consisted of porcelain enamel steel reflectors of the open end type, complete with high power factor ballasts, compensators, sockets and removable starting switches for two 48-in. 40-watt fluorescent lamps operating on 110-volt, 60 cycle current.

The plant is of slow-burning mill type construction with brick walls, wood floors, timbers and columns. Monitor construction is used on the roofs. It was necessary to install the electrical work for the new lighting installation with a minimum of interference with the continuous operation of the plant.

THE WIRING SYSTEM specified involved rigid conduit and electrical metallic tubing installed on the surface. Smaller sizes, ½ and ¾, were installed through holes bored in the beams; larger conduits spanned the beams with supports at intervals not exceeding 6 ft. up to 1½ in., and 11 ft. for larger sizes.

The transformers, with their associated 600-volt air circuit breakers feeding each panelboard, were mounted in the basement of the room on the same column that supports the panelboard in the room above. These transformers were mounted in the basement to secure a lower ambient temperature, freedom from the fly that is an ever-present problem in a cotton weave room, and operation in an atmosphere not intentionally operated at a high humidity. These transformers are also considerably more accessible for maintenance and inspection than they would be if they had been mounted in the monitors or in some other place inside the weave room proper.

Locating the transformers in the basement saved about 2,000 ft. of wire and conduit on the job, and using old 600-volt feeders wherever possible also contributed to a saving in material. Open wire 600-volt feeders were available for transformer power in part of the room, and these feeders were used.

In the final design 946 fluorescent fixtures were used in the room, each fixture containing two 48-in. 40-watt tubes. These fixtures are mounted 9-ft. apart, 10-ft. from the floor, centered over the weaver's alley, with the long axis at right angles to the weaver's alley. To save conduit, the fixtures were suspended from the ceiling by ¼ in. round iron hanger rods and power was brought to the unit through an attachment cord terminating in a plug fitted into a twist-tite receptacle mounted in an outlet box on the ceiling. This arrangement simplifies taking the units down for cleaning or maintenance as they can be disconnected by the plug, lifted off the hanger irons and taken to the floor. The twist-tite receptacle was necessary because there is considerable vibration in this building, and some of the drops are long enough to put considerable weight on the attachment plug.

INSTALLATION METHODS. In order to execute the work as quickly as possible, the contractor's crew and men worked on the week-ends as much as possible to avoid interference from moving machinery underneath them. Special scaffolding was built, a material stortage location fixed and work benches made until the material had begun arriving on the job. The moving scaffolds used for boring the overhead beams and installing the conduit were built in such a way that they spanned two of the weaving aisles with the scaffold legs in the back alleys. Weavers could therefore work through both aisles and have no interference with their job.

There was quite a problem in catching the wood shavings from boring the overhead beams for the ½- and ¾-in. conduit. This was handled by placing a cloth extension on the scaffold large enough to catch all shavings from the bits so that none would be dropped into the warps on the looms underneath. Drilling was done with 1⅛-in. bits with a 3-ft. shank extension driven by an electric drill.

After the holes were drilled and conduit and boxes installed, wire was pulled in and wiring devices installed from the same scaffolds. Installation of feeder circuits in the basement and feeds to the panelboard involved no complications as there is little machinery in that area.

Since fixtures in various lines are identical as to wiring, length of hanger iron, and length of attachment cord, fixtures were made up complete at the work benches, carried up to the room, and installed in one operation. The lamps were installed from stepladders after the fixtures were hung.

According to the owners report, the system in operation is giving satisfactory illumination from the standpoint of intensity and shadows.

Mill-Made Chlorine Bleach

Feasibility of installing electrolytic equipment merits study by textile men

SHORTAGE OF CHLORINE has brought to the forefront questions as to the feasibility of textile mills installing equipment for making bleaching solutions for their own use. Although some smaller companies have bought sodium hypochlorite solution or have made calcium hypochlorite solutions from bleaching powder, common practice in recent years has been to purchase liquid chlorine for use in preparing sodium hypochlorite solution. A few paper companies have been producing chlorine for some time; but, for several reasons, textile mills have not found it advantageous to do this. In the past most laundries purchased sodium hypochlorite solution. For some time, however, there has been a trend in the laundry industry toward the installation by individual plants of apparatus for making their own bleach solutions. Further, a few textile mills have recently installed equipment of the same types that are being employed by laundries. The present uncertainty as regards the supply of chlorine makes it worthwhile for textile companies to investigate the practicability of making their own chlorine bleach.

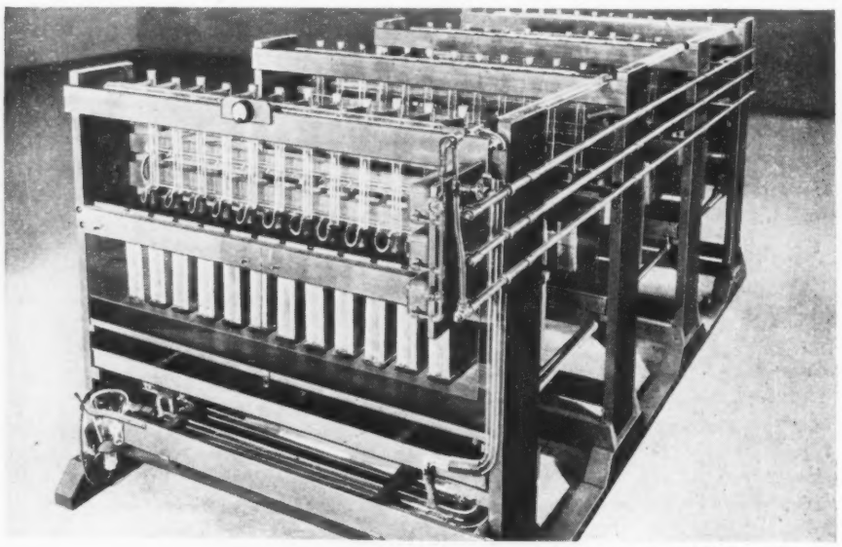


Photo Courtesy of Embree Mfg. Co.

Electrolytic apparatus for making sodium hypochlorite bleaching solution installed recently in a large bleachery.

Electrolytic cells used in producing chlorine or hypochlorite are of two distinct classes—hypochlorite cells and diaphragm cells.

There has been considerable development in Germany of large-scale hypochlorite cells, but in the United States they are available only in small sizes. Cells of this type are employed in a chlorinator which has been used for a number of years in the laundry industry and which recently has been introduced to the textile industry. The unit consists essentially of a storage tank for holding salt solution, cells in which electrolysis of the brine takes place, and a vat from which the sodium hypochlorite solution is drawn off for use. The hypochlorite solutions produced by most units of this type have a strength of about 0.5%, but it is reported that equipment producing higher concentrations is being developed.

Large producers of chlorine employ diaphragm cells of various types. One of the best-known types is the Hooker Cell. One Hooker S-type cell has a capacity of 5,000 to 7,000 amp., occupies approximately 70 sq. ft. of floor space including aisles, and produces 330 to 470 lb. of chlorine and 365 to 520 lb. of caustic soda per day; concentration of the caustic soda is about 150 g.p.l. High-amperage cells, such as the Hooker cell, have a lower initial cost per ampere than low-amperage cells, but their potential use in the textile industry appears to be limited to large consumers of chlorine.

Another type of diaphragm cells is the Emar cell. This cell is employed in the apparatus for making bleach shown in the accompanying illustration. Originally designed for laundries, this particular apparatus is now beginning to find application in textile mills. The cells are built in various ampere capacities ranging from 6 amperes up. A cell of 48-amp. capacity produces somewhat over 3 lb. of chlorine per day, and a large number of cells can be connected in series in one unit to utilize the 110- or 220-volt d.c. current available in many plants. As the chlorine produced by the cell is immediately absorbed by the caustic soda also produced by the cell, there is no appreciable quantity of chlorine gas in existence at any time. With this type of apparatus, it is possible to produce sodium hypochlorite solution having a strength of 50 g.p.l. available chlorine or greater. To produce 1 lb. of chlorine and approximately 1 lb. of caustic soda, 3½ lb. of salt in form of a saturated solution and 3-kwh. of power are required.

Either d.c. current or a.c. current and motor generator equipment or rectifiers can be employed. As the apparatus was built originally for use in laundries, which do not have skilled chemical help, it was so designed as to be simple, automatic, foolproof, and capable of being operated by anyone of average intelligence.

Among the factors to be considered by textile mills which contemplate the installation of electrolytic equipment for production of sodium hypochlorite are: Government regulations regarding sales and use of chlorine, daily or weekly consumption of bleach on basis of pounds of available chlorine; desired concentrations of sodium hypochlorite solution; initial cost of apparatus; total cost of producing hypochlorite—including cost of power, labor, maintenance; etc. No attempt has been made in this article to discuss these various factors. Rather, the purpose has been to point out the availability of such apparatus and to describe briefly the three types that might be employed.

Textiles That Glow in the Dark

Find application in black-outs and for variety of other interesting applications

DURING A BLACK-OUT the electric lights in a hospital room suddenly went out. Fortunately, a sheet treated with a luminous compound had been hung in the operating room, and the surgeons were able to continue a delicate operation by the bright glow from the sheet. This is but one of the numerous applications in black-outs for textiles which have been treated with compounds having luminescent properties.

Luminescent compounds are of two general types: (1) phosphorescent materials which glow in the dark after they have been exposed to light; and (2) fluorescent materials which glow while exposed to ultraviolet light. Other types of luminescent compounds which do not require activation by light are not generally employed for treating textiles, although use of radio-active zinc sulphide for treating rayon was suggested by two French chemists in 1930.

Fluorescent materials include a fairly wide range of inorganic and organic compounds. Among the inorganic compounds are various uranium salts, which emit a yellowish-green glow when exposed to ultraviolet rays. The most important organic compounds that fluoresce are dyestuffs, according to Henry E. Millson, of Calco Chemical Division, American Cyanamid Co., in Calco Technical Bulletin No. 616, "Black Out Preparations in the United States." These dyes give brilliant fluorescent shades of violet, blue, green, yellow, orange, brown, red, etc. During the last ten years fluorescent dyes and pigments have been employed quite extensively in the treatment of theatrical costumes and scenery. In 1940 carpets colored with fluorescent dyes were introduced for use in foyers, aisles, and stairs in theaters. Another pre-war use of fluorescent compounds was in invisible inks used by laundries and textile mills for marking garments and fabrics for identification; markings made with such inks are invisible in daylight, but show up under ultraviolet light.

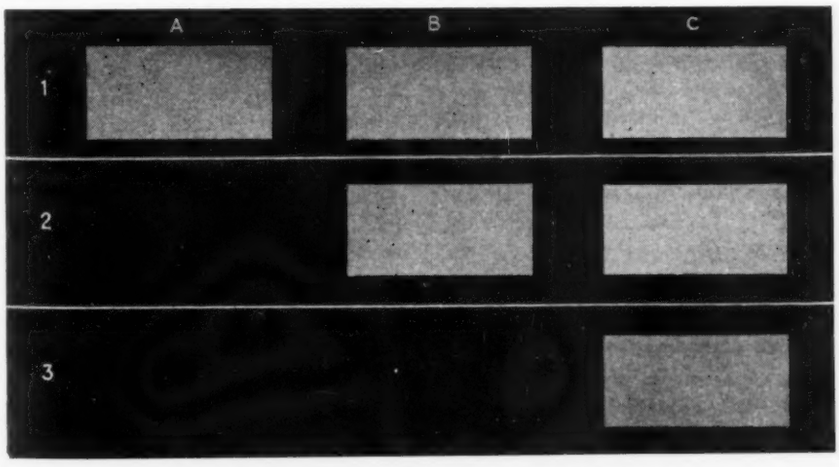
PHOSPHORESCENT COMPOUNDS include various salts—particularly sulphides—of zinc, cadmium, calcium, magnesium, strontium, barium, etc., to which small amounts of copper, silver, or manganese have been added. Zinc sulphide containing a small amount of copper gives a bright greenish yellow afterglow which lasts for 10 to 20 min., and is faintly visible for 2 hr. Other phosphorescent compounds give violet, bluish green, and blue afterglows. One compound employed for treating textiles gives a bluish glow of fair initial brightness which drops 25 to 30% in the first 30 min. of darkness, but is still visible for 8 to 24 hr. Upon exposure for a short time (30 sec. or more) to daylight or artificial light, the phosphorescent compounds are reactivated.

Application of fluorescent dyes to textiles is carried out in the usual equipment and by the same general procedure as for non-fluorescent dyes. Phosphorescent pigments are compounded with various resins, such as vinyl resins, polystyrene resins, methyl methacrylate, or ethyl cellulose; a plasticizer; and a solvent. They are applied on a coating machine backfilling machine, or screen printing equipment, or by spraying or hand spreading. Cotton sheetings, twills, tapes, braids, and cords are most commonly treated.

In black-outs textiles which have been rendered fluorescent or phosphorescent save time, avoid confusion, and prevent falls and collisions which might lead to serious injuries.

Luminous arm bands, hat bands, and belts will indicate the position and movements of a person in the dark. Luminous hosiery has been suggested for women, and a protective top-coat made from a luminescent, coated cotton fabric has been developed. Fabric strips, tapes, braids, or cords treated with phosphorescent or fluorescent compounds can be used to outline aisles, passageways, doorways, and stairways, fire extinguishers, control panels, instrument dials, switchboards, and other important places. Automobiles and other vehicles could be outlined with luminous tape. Fabrics can be cut into signs or letters. For home use lamp shades and screens that will glow in the dark are possibilities.

Speaking of "Recent Uses of Luminescent Pigments" at a meeting of the Rhode Island Section of the American Association of Textile Chemists & Colorists, Robert W. Joerger, of Hope Webbing Co., pointed out that whereas the light from a 25-watt electric light bulb can be seen from 6 to 10 miles through the darkness, and the same light shining forth from an unshaded room can be seen at 10,000 ft. elevation, even the best luminous pigments can hardly be seen more than 100 ft. away. Their use is limited, therefore, to rather local guides, sufficient to help the users, but difficult to detect by the more distant opposition.



Appearance of fabrics taken by (1) daylight; (2) ultraviolet light; and (3) in dark room with no light. A untreated; B treated with fluorescent compound; C treated with phosphorescent compound.

NACM Studies the War Program

Annual meeting at Boston gets close up of WPB, OPA and salvage problems

THE WAR PROGRAM, as it affects the cotton-textile industry, was the subject of clinical study at the annual convention of the National Association of Cotton Manufacturers held in Boston Oct. 1. Representatives of the Office of Price Administration and the War Production Board were among the speakers, and reported on textile price control, war production of textiles, and the contribution which cotton mills can make to the industrial salvage program. A glowing tribute was paid to the industry, whose record of output for war purposes, to date, was described as phenomenal.

This group of speeches was supplemented by a realistic talk on one of the other major phases of today's problem: human relationships in industry.

The meeting was completed and made colorful by the banquet features, including a style show "Cotton Conquers the Winter Front," presented by Miss Virginia Jewel of the Cotton-Textile Institute; and by an "Eyewitness Account of the Pacific War" supplied by Richard Wilson, Far Eastern Bureau manager for the United Press. At the banquet, also, Russell T. Fisher, who was reelected president of the association during the day, presented his annual address.

The meeting was characterized by a seriousness and a closeness of attention which reflected vividly a nation and an industry at war.

SPEAKERS FROM OPA AND WPB—Bernard F. Haley, director of Textiles, Leather and Apparel Section, OPA, pointed out to the meeting that one of the important functions of price controls is that of facilitating conversion of the economic system from a peace basis to a war basis.

"In addition to protecting the consumer from the evils of inflation," he said, "and preserving our economic system from the inevitable collapse that would follow upon runaway inflation, price control has a very important part to play in bringing about the desirable increase in production of scarce materials needed for the war effort, and the diversion of scarce means of production to the satisfaction of essential war needs. Price control makes it relatively difficult for non-essential industry to bid for labor, by wage advances, against the essential industry. Our program of price control in the textile fields has been adapted to these ends. It has, however, been handicapped somewhat by an absence of control over two very important factors of our economy: The structure of wage rates and the prices of certain raw materials.

"Our program for the immediate future," he went on, "should include the following features: (1) Although no overall revision of the 42 price schedules in this field is contemplated, we shall undoubtedly review most of these regulations rather carefully during the next six months and make such revisions as may appear desirable. (2) It obviously is not desirable to have a few specified constructions covered by a particular price schedule, while other constructions of the same fabric are covered under the General Maximum Price Regulation. Wherever possible, we shall endeavor to bring within the scope of existing regulations any such constructions not now specifically covered in a given regulation. (3) Wherever possible, we hope as time goes on to introduce specific dollar and cents prices into our schedules. (4) We plan to work with other agencies of the Government and with members of industry in attaining whatever reduction in the number of varieties of fabrics and whatever standardization of materials may be feasible with the aim to conserve labor and resources."

Mr. Haley said that OPA will increase the clarity and understandability of price regulations; some of the price regulations are virtually incomprehensible, and therefore difficult to administer. Price control must be supplemented, he added, with clearer specification as to quality since quality depreciation is a surreptitious price advance.

Horace G. Woodbury, Chief, Combed Yarns Unit, Cotton Section, Textile Branch, WPB, said, "Your record to date in the production program has been most gratifying. The expansion in production of both pounds and yards during 1941 and 1942 of the combed yarn and spinner-weaving industry has been phenomenal. Latest available figures show that the yarn industry devoting 64% of its output to war purposes, while 55% of the spinner-weaving industry is producing essential yarns and fabrics for the Army, Navy and other needs. These figures undoubtedly will have to be further increased—but to what extent we cannot now accurately predict. Indications are that we will be called upon to devote a greater percentage of our total capacity for the armed forces than has been thought likely.

"You have and will have your own representatives working with WPB on your problems in the form of the Combed Yarn Advisory Committee, and a Combed Cotton Fabrics Advisory Committee has been tentatively appointed to function when the time comes. These committees are representatively chosen from members of the industry and will meet with us regularly to review and suggest actions concerning the industry's operations. We look upon the committees as our board of directors with whom we can discuss our problems. The so-called 'M' Orders—155, 117 and 197, all of which are related to combed yarn and combed fabric production, are absolutely essential to war-time operations and must continue in force or be replaced by acceptable substitutes. It is on matters particularly connected with these orders that the Industry Advisory Committee will be of valuable assistance."

The New England Regional Office of OPA, was represented at the meeting by Francis P. Madden, regional price executive, who told the manufacturers that his office was well equipped with commodity specialists and lawyers who can give reasonably quick answers to questions relating to compliance. He suggested that the mill owners instruct their salesmen to be sure of their ground before giving price advice to customers, and he stressed the desire of his office to give every service possible.

S. F. Doane, regional chief, Industrial Salvage of New England, WPB, gave the over-all picture of the scrap collection plan. The national quota is 17,000,000 tons of iron and steel scrap this year, more than three times the normal, and cotton machinery is best No. 1 cast scrap. "We suggest," he said, "that each plant make a survey

and list as scrap all machinery not used in the last three months and not likely to be used in the next three months. If not used in that six month period, it is not likely to be used for the duration."

HUMAN RELATIONSHIPS IN INDUSTRY—Dr. Ben M. Selekman, associate professor, Department of Industrial Research, Harvard Business School, presented his view of the present situation in labor relations based on an experience of 27 years in this field. It is time to take a fresh start, he said, and look on your plant not as a machine to turn out goods, but as a community of persons of various skills who are carrying on together.

"Collective bargaining is a misnomer," he said. "It should be rather collective collaboration, but we cannot rise to collaboration unless we look on ourselves and our employees together as members of society. Workers are interested primarily in two things: (1) their love-life and their family, and (2) their job and their associations with management and with their fellow-workers. Between these two interests has come a great disparity. The worker's relation with his job has become more and more impoverished emotionally. The joy of doing the job has been removed from industry."

To substitute collaboration for conflict, Dr. Selekman explained, we must adjust ourselves to the rules and regulations of modern industrial relations. He then gave the historical background of labor laws starting with the Erdman act of 1898. Dr. Selekman showed that in the 1930s the depression brought an almost complete social breakdown and then came the Wagner act, the Social Security Act, stock market reforms, etc. Had we been more foresighted, he pointed out, we could have had a network of State laws administered locally, but as it is we have a great Federal plan backed with billions of dollars of resources. The Government rushed as if into a vacuum with one law after another.

"I don't think we can reach sanity in relation to these laws," said Dr. Selekman, "unless we recognize that they have their roots in our own history. It is useless to consider whether you and I like the Wagner act. You might as well accept it and try to get maximum collaboration instead of conflict. It isn't good public relations not to accept these things. You in the textile industry are lucky in the type of unions you have. Their leaders recognize that prosperous business is needed in order to have prosperous workers."

"However, your interests would be better taken care of if you substituted industry-wide negotiation instead of local. When you negotiate as an industry you find that the labor is keenly interested in your continuity and solvency, while the individual inherits the hostility of the fight which precedes the signing of the contract.

"Do you know of any mill that has celebrated the signing of a contract with a party for its workers indicating that the conflict is over and a basis for peace has come?" he asked. "No, we usually hide the contract. We don't recognize the emotional focus needed by the worker."

There is a trend, he said, for union leaders to become top management groups; some of them are more dictatorial than many businesses. Unless labor leaders handle their powers wisely and democratically, Dr. Selekman foresees further labor laws, involving public reports of finances of labor unions, and election of officers and strike votes under public auspices.

AT NACM SPEAKERS' TABLE: (left to right) Russell T. Fisher, president, NACM; Bernard M. Cone, head of the Cone group of mills, Greensboro, N. C., and president of the ACMA; Dr. Claudius T. Murchison, president, Cotton-Textile Institute

THE BANQUET ADDRESS of President Fisher touched on the recent wage action by NWLB. He said, "Second only to the war effort in importance to the northern mills was the decision of the War Labor Board in the cases involving 48 northern mills. There is no object in enlarging on how incomprehensible the decision was, nor in speculating on how or why the Board arrived at its conclusions. The northern mill representatives at no time opposed some increase in wages. They maintained and still maintain that, in an industry as highly competitive as the cotton-textile industry, mills in one section cannot survive if they are compelled to pay higher wages than mills in another section. We are used to hearing the wage differential discussed in cents per hour or in percentage. Let me state it another way. The northern mills last year paid something over $20,000,000 more for their labor than would have been paid if these same mills had been operated in the low-wage area."

Referring to a new activity of his association, he said, "Your directors recently voted to establish a department within the association to collect, correlate and study facts on human relations in our mills. We hope to have the department actively functioning shortly."

Turning to the current situation, Mr. Fister said, "To appraise the situation as it seems today, I would estimate that between 60 and 65% of the industry's production is being taken directly or indirectly for military purposes. This leaves 35 to 40% available for civilian consumption, which sounds like a very limited volume of cotton goods for the public. When we examine the figures, however, we find it to be another illustration of the distortion caused by incomplete statistics. Applying the percentages for military and civilian use to the greatly increased consumption shows that, in terms of pre-war consumption, nearly 70% of the normal requirements for cotton goods will be available, rather than 35 to 40%."

Russell T. Fisher was reelected president of NACM. Two vice-presidents were elected—C. F. Broughton and Samuel Powel. Robert Amory and W. F. Staples were reelected to the board of directors and the following new directors named: Kenneth B. Cook, W. W. Allen and Frank Lyman.

Still More Combed Yarn Is Needed

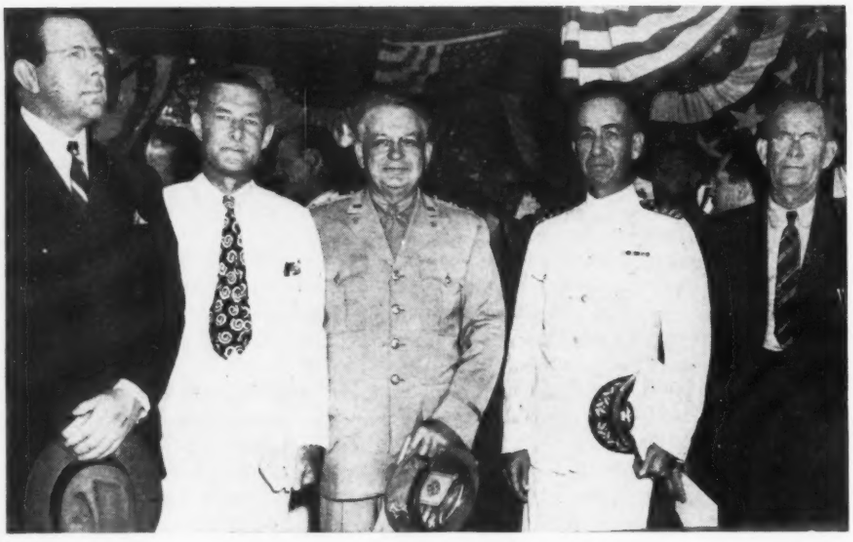
Gen. Gregory urges spinners expand to meet twill needs—"Byrd Cloth" Stressed

ARMY REQUIREMENTS for combed cotton fabrics for the last half of 1942 will be more than twice the yardage delivered during the first six months of the year, stated Major General E. B. Gregory, the Quartermaster General, at the annual meeting of the Southern Combed Yarn Spinners Association held in Charlotte, N. C., Sept. 18. Furthermore, he added, there was no prospect of the rate diminishing next year; on the contrary, it might increase. Consequently he urged even further expansion of combed-yarn output.

The meeting was also featured by a stirring address on personnel problems in war time, by Lawrence A. Appley, vice-president of the Vick Chemical Co., now on leave as consultant to the Secretary of War on civilian personnel.

Prior to the meeting, at an impressive ceremony in Cramerton, N. C., General Gregory presented to the employees and management of the Cramerton Mills the Army-Navy Production Award.

The association elected as president W. L. Balthis, of Gastonia, president of the Peerless Spinning Corp., Lowell, N. C., and other mills in that section, to succeed S. M. Butler, of Cherryville, N. C. Other officers elected include: first vice-president, Caldwell Ragan, president of the Ragan Spinning Co., Gastonia; second vice-president, F. L. Smyre, Jr., president of A. M. Smyre Mfg. Co., Gastonia; secretary and treasurer, T. L. Wilson, treasurer of Ruby Cotton Mills, Gastonia; executive secretary, Mildred G. Barnwell.



At the Cramerton presentation ceremony, prior to the Combed Yarn meeting: left to right, Gov. J. M. Broughton of North Carolina; Maj. Stuart W. Cramer, Jr., president of Cramerton Mills; Maj. Gen. E. B. Gregory, the Quartermaster General, who presented the award and made the principal address at the Combed Yarn meeting; Capt. Alfred T. Clay, who represented the Navy at the ceremony; and Grover Cleveland Bridges, oldest employee of the mill in point of service, who accepted the award on behalf of the employees.

A remarkable record of progress was revealed in the annual report prepared by Mrs. Barnwell. In August, 1940 (just prior to entering the world program) weekly production of combed yarn by the member mills averaged 2,088,679 lb. In August, 1941 (after one year's conversion effort) the same spindles averaged a weekly production of 3,224,954 lb., of which approximately 45% was going into Government work. In May, 1942, the same spindles were producing a weekly average of 4,091,618 lb., of which 2,500,000 lb. (or 61%) were being shipped on Government work. In other words, in 20 months the same spindles had voluntarily doubled their productive capacity. Shipments to the Government are now 125% of normal weekly output.

At speakers' table, left to right: Former-Gov. O. Max Gardner of North Carolina; Mildred G. Barnwell, executive secretary of the association; and Maj. Stuart W. Cramer, Jr., president of Cramerton Mills.

Special guests at the meeting included Gov. J. M. Broughton of North Carolina, and former-Gov. O. Max Gardner of North Carolina. The former introduced General Gregory while the latter introduced Mr. Appley. Gov. Broughton suggested that, when the present taxation plans become completely effective, the association might have to change its name to Southern Combed and Dry-Cleaned Spinners Association. Just about the time that the Governor was painting a glowing picture of the absence of strikes in North Carolina plants, the elevator operators at the Hotel Charlotte where the meeting was held were unkind enough to go out on strike.

GENERAL GREGORY, after pointing out that Army requirements for combed cotton cloth for the second six months of 1942 will be more than twice the yardage delivered during the first six months, stated that all in all the Army will take a little more than a quarter of the total amount of combed fabrics produced this year in the United States.

The biggest item, he emphasized, is combed twill for summer uniforms. The Army and Navy together expect to take almost all of this year's output of that fabric. It is estimated that about 234,000,000 yd. will be produced in 1942, of which the Army will take about 87%, the Navy 10%, leaving 3% for non-military purposes.

"That represents a lot more twill than we ever dreamed that the industry would produce a few years ago," said the General, "and you are to be congratulated upon the part you have played in this expansion. But I must add a word of caution. In time of war there is no such thing as doing a good enough job. Most of you have cooperated wholeheartedly with us in converting your mills to the production of yarn for military fabrics, but I am sorry to observe that a few mills have not. The result is that the supply of combed yarn for twill is still not adequate to meet all of our needs. Combed twill is by far the most satisfactory fabric for summer and tropical uniforms, but over the last year and a half we have found it necessary to purchase many million yards of Type IV cotton khaki uniform twill. Type IV is made from carded yarns which do not produce as satisfactory a fabric for uniforms as our regular Type I uniform twill which is made out of combed yarn.

"We hope that a sufficient number of mills will be converted to the manufacture of yarn for uniform twill so that it will be possible to fill all of our 1943 requirements from combed yarn fabrics."

General Gregory referred particularly to the need for expansion in the production of "Byrd Cloth" for arctic use. Chief requisites of arctic fabrics, he said, are that they possess strength and a natural high water-repellency, and fabrics made from combed yarn are by far the most satisfactory. The ideal cloth for this purpose, he continued, is Type I, 5 oz. twill, commonly known as "Byrd Cloth" after Admiral Byrd who was one of its first users. "Unfortunately, Byrd Cloth is quite difficult to make because of its tight weave and the supply is very limited," said General Gregory. "I might point out, if any of you are interested in a new field where you can expand your sales and serve the Army at the same time, you might look into the Byrd Cloth situation. Since this supply is limited, we have to use the next best thing, which is poplin. This is the same fabric we use in the field jackets."

At the speakers' table of the Combed Yarn meeting: S. M. Butler, retiring president of the association, left and Lawrence A. Appley, one of the two principal speakers.

Coming to plans for 1943, the General stated that contracts now being negotiated for uniform twill to be delivered during the first six months of next year will provide for deliveries at approximately the same rate as the last six months of this year. Beyond the first half of next year, he said, he cannot predict accurately but he has reason to believe that Army requirements for twill will be undiminished. Deliveries of woven mosquito netting and balloon cloth during the second six months of this year will be more than double the deliveries of the first six months.

Answering a question as to the probable rate of QM purchases of cotton goods over the next year or two of war, the General said that there is no prospect of the rate being less but that it might be more. To another question as to whether the present high standards for Army fabrics might be lowered, the General replied: "Only over my dead body."

TEN SIMPLE STATEMENTS of human instincts and relationships were isolated by Mr. Appley in his talk on personnel policies. He suggested to his hearers that each one apply each of these statements to himself as an individual. "If you agree that they are conditions which appeal to you personally in relationship to your work situation you can rest assured that they appeal to every worker under your direction."

"1. When an individual is seeking employment he likes to be treated courteously and to be made to feel at home and at ease.

"2. The average individual likes to be introduced and welcomed to a job rather than thrown into it.

"3. The ordinary human being would like to receive simple and intelligent instruction as to what he or she is expected to do and how it can be done.

"4. Any human being likes to work under someone in whom he can have confidence and respect.

"5. Every individual likes someone to recognize his importance.

"6. There isn't a human being alive today who does not desire realistic recognition of a job well done.

"7. There are few human beings who will not work their hearts out for incentives.

"8. Every human being likes to work in an organization in which there is universal confidence in the ability and fairness of the top management.

"9. A basic instinct in all of us is a desire for security.

"10. When it is necessary for an employee to terminate relations with an employer he would like to do so with his head in the air and with a full understanding of the reasons for it."

At speakers' table, left to right: Gov. J. M. Broughton of North Carolina; Fred W. Morrison of Gardner, Morrison & Rogers, counsel for the Cotton-Textile Institute; and Douglas G. Woolf, editor of Textile World.

Fabrics For Military Purposes

WAACS winter uniforms made of 12½-oz. covert cloth; same OD colors as for Army

WITH JACKET of dark olive drab, skirt of light drab, and snappy cap with visor, officers of the Women's Auxiliary Army Corps are ready to vie with anybody for the title of the "Best-Dressed Women of the Year." Stunning too are members of the enlisted personnel with the OD uniforms of the same color as uniform of Army enlisted men. For the uniforms worn by the WAACS a 12½-oz. woolen covert cloth has been adopted as covered by U. S. Army specification No. 8-122A.

Covert cloth specified is of one type and three classes: (1) class A of fleece or pulled wools not lower in grade than 64s; (2) class B of not less than 80% fleece or pulled wools not lower in grade than 56s and not more than 20% of noils lower than 56s; and (3) Class C consisting of not less than 50% of fleece or pulled wools not lower in grade than 56s, 20% of noils not lower than 56s and not more than 30% of reprocessed wool of lower than 56s.

Color will be specified in invitation to bid. Blends of stock-dyed wools and white or piece-dyed cloth are acceptable. If dark blue or medium blue is specified, indigo or dyes of equal fastness shall be used. Cloth shall be free of vegetable matter (carbonized if necessary).

When water repellency is specified in invitation for bids, the cloth shall meet a spray rating of 80 initially and of 70 after three dry-cleanings.

Manufacturing data not given in the specifications are as follows.

Picking—Stock should be laid down carefully at the picker and oiled. The boss carder determines the number of times to run the stock through the picker so it will go to the cards in an open condition. When feeding at the picker, work straight down into the pile so as to obtain an even mix.

Carding—Cards should be in good working condition, as uneven and streaky goods will result from yarns showing any irregularity. Check the rings or tapes of the doffer carefully, as a ring out of line or a tape too narrow or broad will cause trouble in spinning and weaving. A stock well carded into an even roving will result in a uniform yarn.

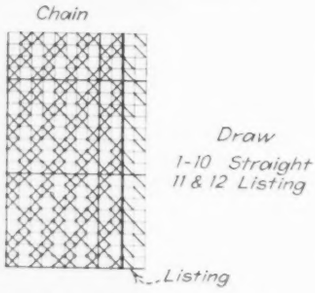
Spinning—The mule should be in good working condition without loose collars or collar boards, worn steps, and feed rolls not true. Spindle bands should be renewed and evenly tensioned on spindles. Spinners should not be allowed to pick up and piece ends after the carriage is out; otherwise a thick end will result. Should a number of ends fall, stop the mule and piece the ends before the carriage starts out.

Weaving—Check guides and tension hooks in spooling, should any be cut or worn, replace them, as uneven tension will cause imperfections in the cloth. Also, carefully check reeds for uneven dents so as to avoid reed marks, as these cannot be corrected in finishing.

Finishing—Goods may be fulled in the grease using a good soap. Full to 56 in. inside listing, scour, wash, extract, and dry to 57 in. inside listing. Steam brush, shear face close, and crop back to clear off long fibers. Press, not too hot, to 56 in. inside listing, and allow the goods to set on the roll.

Suggested layouts for covert cloth of different classes are given in the accompanying table. Some data may require altering slightly to coincide with the manufacturing conditions existing in different mills. The superintendent and overseers will be able to determine the proper shrinkage required, as well as other essential information after running a sample piece.

Layout for covert cloth, 12½ oz. Classes A and B



3920 ends plus 80 ends listing
11¾ reed
5 ends per dent
68 in. wide
53 picks at loom

Warp yarn 30 2/3 cut		6.96 oz.
plus 10% sizing		7.67 oz.
Filling yarn 30 2/3 cut		6.27 oz.
Perch (weave room)		13.94 oz.
Less	14%	1.95 oz.
		11.99 oz.
Shrinkage, approximately 8%		12½-13 oz.
Finished to 57 in. over-all		

Class C

3920 ends plus 80 ends listing
11¾ reed
5 ends per dent
68 in. wide
53 picks at loom

Warp yarn 30 cut		7.11 oz.
plus 10% sizing		7.82 oz.
Filling yarn 30 cut		6.31 oz.
Perch		14.13 oz.
Less	16%	2.36 oz.
		11.77 oz.
Shrinkage, approximately 9%		12½-13 oz.
Finished to 57 in. over-all		

Photo by U. S. Army Signal Corps

WAAC officer's winter uniform.

Seek Workable Fastness Rules

Textile men urge descriptive labeling at Federal Trade Commission hearing

DESCRIPTIVE LABELING of textiles—rather than the A, B, C, D grading proposed by the Federal Trade Commission—was advocated by textile groups at a colorfastness hearing held Sept. 9 and 10 in New York. At an earlier hearing held Aug. 18, in Washington, textile men questioned the value of the colorfastness rules proposed by the FTC on the grounds that they are impracticable; that they do not conform with accepted commercial practices; that all textiles are required to meet the same colorfastness standards regardless of the use for which they are intended; and that their adoption would retard the war effort; representatives of the OPA and some consumer groups supported the proposed rules (TEXTILE WORLD, September, 1942, p. 98).

Arguments of the textile groups at the September hearing were bolstered by submission of counter-proposals calling for the setting up of clear, workable rules embodying descriptive terms for designating the colorfastness of textiles. Most comprehensive of these proposals was the recommendation of the National Association of Finishers of Textile Fabrics, which was endorsed by the Cotton Textile Institute, the Association of Cotton Textile Merchants, and others. Representatives of the rayon yarn producers, wool goods manufacturers, and thread manufacturers pointed out that the rules proposed by the FTC were not applicable to rayon fabrics, woolens and worsteds, or sewing and handicraft threads. The grading procedure advocated by the FTC was endorsed by the American Home Economics Association, and the American Association of University Women. Retailers, the American Standards Association, the American Institute of Laundering, and the National Association of Cleaners & Dyers joined with the textile manufacturers in requesting modification of the rules.

In its brief opposing the FTC proposals, the National Association of Finishers of Textile Fabrics stated in part: "Under the burdensome, confusing procedure suggested in the rules we predict that descriptive marking would practically disappear and the objective of the Commission in promulgating rules would be defeated. This is particularly regrettable, since the objective of labeling could be attained, we feel, by logical, simple procedure. The method of marking proposed by the commission; i.e., the use of grades symbolized by the letters A, B, C, etc., with, in some cases, qualifying clauses, we feel is a very poor one. The average consumer, of course, lacks sufficient all-round knowledge of the highly technical subject of color to be able to judge the relative value of these letter symbols, and we know of no way consumers generally could be educated to their meaning even over a period of time. Why not then simply tell the consumer what is meant by the use of a descriptive word and an accompanying statement of explanation?" In line with that reasoning, the Association recommended the nomenclature shown in the accompanying table for describing the colorfastness for cotton woven fabrics in place of the A, B, C, D grading proposed.

Several groups emphasized that the FTC rules do not take into consideration either the use for which a textile is intended or the fibers from which it is made. The Rayon Yarn Producers Group, for example, pointed out that the washing rule eliminates from "Grade A" all fabrics which are customarily subjected to home washing, whereas there should be in the rules something equivalent to a "Grade A" on colorfastness to home washing. For this reason, in place of the terms "Grade A," "Grade B," etc., terms are recommended more nearly in accord with the uses and tests applied to a product by the consumer.

Following the hearing, which took up two full days and extended into an informal evening session, discussion of the rules has continued, with several other organizations filing additional briefs. Consensus in the trade is that the FTC will insist on early promulgation of colorfastness rules, but will modify those originally proposed to meet some of the objections raised by the industry.

Colorfastness nomenclature for cotton piece goods recommended by National Association of Finishers of Textile Fabrics

FASTNESS TO LIGHT

For goods which pass Test, Section XI, CS59-41 carried to number of Fadeometer hours indicated: Term: Sunfast-Color Value 160, 200, 240, etc. (in multiples of 40). Accompanying Phraseology: None. Selvage Stamp: Sunfast-Color Value 160, 200, 240, etc.

For goods which pass Test No. 5, Section XI, CS59-41—80 hours Fadeometer: Term: Sunfast-Color Value 80. Accompanying Phraseology: While all colors eventually fade, these colors are of a high degree of sunfastness and are satisfactory for any use except continuous outdoor exposure. Selvage Stamp: Sunfast-Color Value 80—see attached label.

For goods which pass Test No. 3, Section XI, CS59-41—40 hours Fadeometer: Term: Sunfast-Color Value 40. Accompanying Phraseology: While all colors eventually fade, these colors will be fully satisfactory for wearing apparel and indoor furnishing. Selvage Stamp: Sunfast-Color Value 40—see attached label.

For goods which pass Test No. 2, Section XI, CS59-41—20 hours Fadeometer: Term: Sun Resistance—Moderate. Accompanying Phraseology: These colors are satisfactory for general uses where not subject to excessive exposure to sunlight. After washing do not dry in direct sunlight. Selvage Stamp: None.

FASTNESS TO WASHING

For goods which pass Test No. 1, Section XI, CS-59-41—10 hours Fadeometer: Term: Sun Resistance—Fair. Accompanying Phraseology: These colors have a limited degree of sunfastness. Not recommended for continued use in sun. After washing do not dry in direct sunlight. Selvage Stamp: None.

For goods which pass Test No. 4, Section VIII, CS-59-41, 180° F.: Term: Washfast Color or Fast to Washing Color or Boil Fast Color. Accompanying Phraseology: No colors are absolutely fast. These colors will withstand repeated commercial or home launderings at high temperatures if bleaching compounds are not used. Selvage Stamp: Washfast Color or Fast to Washing Color or Boil Fast Color—see label attached.

For goods which pass Test No. 3, Section VIII, CS59-41, 160° F.: Term: Washable Color or Color-Satisfactory Washability. Accompanying Phraseology: While these colors are not of the highest degree of washfastness, they will withstand normal commercial or home launderings without boiling or the use of bleaching compounds. Selvage Stamp: Washable Color or Color-Satisfactory Washability—see label attached.

For goods which pass Test No. 2, Section VIII, CS59-41, 120° F.: Term: Color-Moderate Washability. Accompanying Phraseology: These colors can be washed with a mild soap at temperatures not exceeding 120° F. without the use of alkali or bleaching compounds. Selvage Stamp: None.

For goods which pass Test No. 1, Section VIII, CS59-41, 105° F.: Term: Color Washable With Care. Accompanying Phraseology: For best results wash these colors in lukewarm water not exceeding wrist heat with a mild soap and without alkali or bleaching compounds. Selvage Stamp: None.

Rising Fashion for Cotton Piles

Corduroy leads vogue with velveteen and similar fabrics sharing importance

By JOHN BLACK

THE WAR, of course, did help. Cotton pile fabrics found themselves in a preferred position, as, one by one, competitive materials began to vanish from the market. However, the present boom in this important cotton division definitely does not belong in the category of "war items" as such. It has foundations far older and more permanent than the present emergency. This is manifest even on a cursory glance over the impressive range of cotton pile fabrics now available. These cloths have been developed through years of technical progress, and popularized through long-planned, carefully built-up fashion promotion campaigns.

As a matter of fact, public interest in these cottons had already crystallized, and they were in active demand, when the war broke out. Obviously, later developments were a helpful factor. The silk embargo, the wool shortage and the shortage of available rayon, as well as the increased importance of economy, strength and wearability in all textiles, combined to focus added attention on the fiber which had not yet been so deeply affected by the war. The cotton pile fabrics are playing a double role in the present crisis: in addition to serving wider markets, these cloths—and particularly the corduroys—are themselves selling actively to war organizations for many vital purposes.

There are four principal divisions to the cotton pile fabric group: Corduroys, velveteens, plush corduroys and cotton velvets. In each of these divisions the progress made during recent years has been decisive and important.

CORDUROYS: Although the present popularity of corduroy had its inception about fourteen years ago, the original acceptance of the fabric for work-wear and for rougher sports usage goes far back into textile history. About 1928, corduroy first was used for boys' slacks and girls' knockabouts; this was on the Pacific coast. Through the depression years, corduroy orders from manufacturers of slacks increased steadily, and the fashion moved steadily eastward. Originally, colors were limited to drab and navy, but gradually brighter tones were favored, and 1935 saw the beginning of patterned corduroys which marked an important turning-point, with designs growing ever more varied and attractive.

At first, all corduroys were in the standard narrow rib. A medium narrow wale was introduced about 1936, followed the next year by the now famous pin wale. Supported by an expertly organized coast-to-coast fashion promotion drive, the pin wale was popularized in a wide range of women's wear and won a success which has grown steadily to date. Thanks largely to the recognition given it by famous American designers, the pin wale now is being used in everything from bathing-suits to bridal wear. Dresses retailing at $8.75 have been one of its most successful fields. To meet demand for medium-priced corduroy merchandise, a medium pin wale was introduced in 1938, and it won a parallel success with substantially increased volume thanks to lower prices; it was made up in dresses retailing at $3.98.

Today corduroy is a best-seller fabric throughout men's, women's and children's wear, extending from such obvious uses as coats and suits to men's business suits and women's intimate wear. The great variety of weights have widened its markets. War uses, too, are a feature: Practical, warm, economical, the heavier corduroy is used for war plant workers' uniforms. Lighter weights are now preferred in military hospitals for patients' gowns. It has been found that the richness of corduroy is better for the morale of wounded soldiers than the standard materials.

Much of the credit for corduroy's popularity must go to the intrinsic merits of the fabric itself. Always a strong, practicable and washable cloth, corduroy took on added style appeal with variations of weight, color and design. As the war limited available civilian stocks of wool, designers stepped into the picture with a range of new wool-type designs for corduroys that won quick approval. These ran the gamut of plaids, checks, tweeds—a field of patterning totally new to corduroy and to which the fabric lent itself delightfully.

The merchandising policy behind the new era of corduroys has been both imaginative and practical. It is typical of the foresight of the sales managers that even now, with most firms oversold on corduroy production, there has been no letup in promotion. Merchandising now is focused on stabilizing a demand for the post-war period.

VELVETEENS: The story of velveteen parallels to a certain degree that of corduroy. Both are standard fabrics, the antecedents of which go back into textile history. The present fashion importance of velveteens, however, covers a period of not more than five years. It was about 1937 that American designers became interested in velveteen. They saw its possibilities as a fabric medium in which to interpret the style needs of the American outdoor woman. The case for velveteen had been brought to their attention by fashionists of the fabric houses who were convinced—and the feeling was shared by many American stylists—that French styles did not suit the sport requirements of modern American women. Under this impetus velveteen took on much new beauty and glamor significance.

The velveteen vogue had already gained headway in this country when France fell, paralyzing Paris fashions and making New York the style center. This further stimulated the significance of the velveteen offerings of American designers. The work done by our fashionists with velveteens was largely noncommercial. It was motivated by national pride and by patriotism. Manufacturers say that the support given this movement by the foremost Hollywood designers was a major factor in raising velveteen to its present importance.

At the start of the vogue, velveteen found favor chiefly in junior apparel. Then it appeared in misses' dresses. Coats followed, then evening wraps and bridesmaids' dresses, and the market widened steadily until today velveteen extends through virtually the entire wardrobe. A major aspect of its expansion is that, thanks to styling, dyeing, and the fashion emphasis on heavier weights, this cloth is now definitely an all-year fabric. Thus velveteen has scored a double triumph: it has won acceptance (1) as a fabric for winter

Photos courtesy of Cotton-Textile Institute

as well as summer wear; and (2) as a high fashion fabric.

The soundness of the present popularity of velveteen becomes clear on brief review of the fabric's character. Velveteen has always been a strong, washable and economical cloth—three assets which are certainly very important today. To these have been added other vital advantages contributed by technical developments. Manufacturers offer various new cloths of unusually attractive character; their drapability makes them particularly adaptable to fashion styling. But the real orchids go to the printers—their accomplishment in the finishing of these pile cottons has been truly remarkable. In terms of color the new velveteens are a joy to behold. What's more, this beauty is retained, sometimes even enhanced, by washing. They are available in all shades of the spectrum—bold and delicate tones, pastels or pronounced nuances which are so appealing that they win the consumer immediately. The colors are alive and vital. The trade is agreed that the excellence of the dyes has played a major part in the success of velveteens.

Prices tell the story of velveteen's fashion rise quite convincingly. While the big volume is in dresses that wholesale at $22.50, some velveteen evening gowns today retail as high as $250—an impressive rise indeed for the lowly cotton of yesterday! It must be kept in mind, of course, that today velveteen apparel is a select item in the nation's most exclusive shops.

Despite the rise in prestige, fabric prices have increased only moderately.

(Left) Corduroy mixmates to meet most of a young girl's town or country needs. The suit (at left) worn with corduroy beret and shoes and a cotton shirt, provides the right costume for shopping in town or attending classes at school. The matching slacks and contrasting vest (at right) stay at home to attend to farm chores, or sports, or lounging.

(Center) Corduroy is an all-round favorite of style-setting college girls. Here it is in a dinner gown! Scalloping outlines the interesting color contrast through the midriff, creating a bolero, peg-top look. Tina Leser designed it.

(Right) Little boys and girls can play as hard as they like in water-resistant cotton corduroy suits. Sister's has a double-breasted jacket, jumper dress and matching calot. Brother is sporting long trousers, a zippered jacket, and matching cap.

A velveteen which was $1.00 per yard four years ago, now would sell for $1.17½. Special quality velveteens, such as hollow-cut, sell at $1.50 per yard.

COTTON VELVETS: The inclination among manufacturers of velvets to turn to production of cotton velvets was a natural development following the elimination of silk and the increasing shortage of rayon. The surprise is rather that the trend has not become more pronounced. Cotton velvet is a branch of the cotton pile group which has big possibilities. This cotton pile fabric, woven on velvet looms, sells in the quality market and is being made up in high priced lines of bridal suits, coats and related items. Cotton velvet seems destined to carry the mantel of silk-back rayon velvet, for the duration, in volume lines, at least! Given prominence a year ago, it has won favor in a wide range of merchandise. Its success in powder puff jackets has been particularly notable.

PLUSH CORDUROYS: An interesting development linking up with the fashion success of standard corduroys is the new type of corduroy made on plush looms. This fabric is heavier than the regulation corduroy being almost of upholstery weight. It has a dignity and body which suit it for apparel lines demanding such characteristics. The nap is deeper than the standard corduroy nap. Plush corduroy is made in many varieties of rib and many constructions and is used in suits, coats, dresses and slacks, to mention a few of its chief applications.

GRANTED THAT ALL THESE cotton pile fabrics may be assured of a "duration" popularity the question arises as to what chances they have for permanent post-war markets. Trade leaders who were questioned on the point, said this would depend largely on the type of service these fabrics rendered the public during the war period. Many believed that there is a legitimate place in the high-fashion and all-year picture for cotton pile fabrics. They point out, however, that consumer confidence will not be built up unless all divisions of the market resolve to maintain quality standards throughout the war, and firmly resist present temptations to yield to expediency.

Intelligent Use of Strobotac

In the spinning room will increase the production of frames and cut seconds

By RAYMOND W. MITCHEM

A MULTITUDE OF SINS in the spinning room is concealed by the rapid rotation of the spindles on the frames. These defects include slack bands and tapes, dirty bands and tapes, spindles that need oiling, crooked idlers, chokes in idlers, chokes under spindles, chokes on bolster, chokes on spindle clutch, chokes in bobbins, spindles out of plumb, crooked spindles, worn spindles, crooked bobbins, bad rings, bad or worn travelers, ring rail not level, band and tape out of whorl, thread in whorl, excessive band and tape slippage, split bobbins, worn bobbins, bobbins that do not properly fit the spindle, uneven yarn, mixed yarn, and oily yarn. All these faults can be detected with the Strobotac, and, in addition, the exact speed of the spindles can be ascertained. Although the Strobotac has proved valuable in improving yarn quality, little has been written on its use in the spinning room. It is believed, therefore, that progressive mill officials will be interested in the following report of tests made by the author with this instrument.

The Strobotac was developed by General Radio Co., and is described as a stroboscopic tachometer. As noted in the operating instructions issued by the manufacturer, the instrument provides a rapid and accurate means of measuring directly speeds between 600 and 14,400 r.p.m. and, by indirect methods, speeds up to at least 50,000 r.p.m. It is particularly adapted for the measurement of speeds where the end of the shaft is not accessible or in cases where the power is limited. It does not require mechanical contact with the shaft and absorbs no power from the drive. The Strobotac can also be used for stroboscopic observation of moving objects. The Strobotac consists of a power supply, an oscillator for controlling the rate at which the lamp is flashed, and a Strobotron or flashing lamp—all assembled in a single unit. By turning an illuminated dial the frequency of the oscillator and hence the flashing speed of the lamp can be adjusted to any value between 600 and 14,400 r.p.m. The scale on the dial is graduated directly in r.p.m.

IN MEASURING SPEED, hold the Strobotac so that light from the lamp falls on the part to be observed (see Fig. 1) and adjust the knob until the moving part appears to stand still. Be sure that you have only one true image. When this point is reached, the dial gives the speed directly in r.p.m.

If the dial is set at twice the actual spindle speed, two images will be obtained. It is possible, therefore, to check individual spindles in this way to determine whether or not they are running at the desired standard speed.

A defect which frequently showed up in enameling duck which we were making was filling slubs, as shown in Fig. 2. At first everyone was puzzled as to where the slubs were coming from and what was causing them. A thorough search failed to reveal their origin until each filling spinning frame on this yarn number was checked. The Strobotac located the bobbin, and it was found that the trumpet was guiding the roving out from under the fluted part of the roll, allowing the second roll to jerk the roving in. This condition is illustrated in Fig. 3. This excess of roving to draft caused a large slub in the yarn. As the trumpet guided the roving back under the fluted part of roll the proper yarn was again made.

Fig. 1. Using Strobotac for measuring spindle speed.

Slubs can also be caused by laps on the back and middle rolls. A lap on a back roll is shown in Fig. 4. The yarn on this spindle is much too large, and in the fabric gives the appearance of mixed yarn. When laps are very large, they cause the other spindle on the roller to make slub yarn. The lap raises the roller; and, as the roving is guided toward the lap, the weight is released, allowing more roving to be pulled in. This makes a large slub.

In Fig. 5 a frame is shown in operation. Note that the roving is split, due to a crooked cot. This condition will result in very uneven yarn.

A torn apron, which is another cause of uneven yarn, is shown in Fig. 6.

In Fig. 7 a pencil roll at the left end of the stand is out of position making a slub yarn.

In Fig. 8 the covering is off a pencil roll in four places and a lap illustrated; these are causing uneven yarn.

The illustrations show only a few of the causes of yarn defects, and there is no end to the interesting and vital facts that can be learned with the aid of the Strobotac.

Intelligent use of the Strobotac is essential if it is to be of most value in preventing defects and reducing seconds. Tests with this instrument should be made periodically, and steps taken promptly to correct any defect which it discloses.

OPERATION OF THE STROBOTAC is simple. Before using the instrument calibrate it according to directions given in the operating instructions. Connect it to the source of power. Hold it close to the revolving spindle so that the light from the lamp falls on the part to be observed. Turn the dial until the spindle appears to be standing still. Carefully observe the spindle.

Now for an example, let us follow through a routine check of a frame.

The standard set-up of the frame is as follows:

Motor speed.....1160 r.p.m.
Dia. motor pulley.....13 in.
Dia. frame pulley.....12½ in.
R.P.M. cylinder (8 in.).....1206
Tape drive
Dia. whorl (6.90 ratio)....1⅛ in.
R.P.M. spindle.....8321

Beginning with the motor: (1160 × 13) + 12.5 = 1206, r.p.m. of cylinder; and 1206 × 6.90 = 8321, r.p.m. of spindle. (Note: This is theoretical, and no reckoning has been made for variation in current, which occurs at times, especially if the line is overloaded, or there is slippage of belts, bands, or tapes).

Assuming we have these data before

Table 1. Result of check-up of spinning frames with the Strobotac

Frame Number	Yarn Number	Frame Pulley Inches	Actual R.P.M. Spindle	Theoretic R.P.M. Spindle	Remarks
1	4.50 w	20(?)	5300	....	Spin. 3 & 4 Sec. 6 Run. 4900 (Slack Tape)
2	8.00 w	16 (?)	6800	....	
3	8.00 w	16 (?)	6600	....	
4	6.75 w	15	7000	7431	Spin. 3 & 4 Sec. 6 Run 6200 (Slack Tape)
5	17.50 w	12	8400	8673	
6	17.50 w	12	8600	8673	
7	10.25 w	14	7500	7431	Spin. 5 & 6 Sec. 26 Run 6700 (Slack Tape)
8	17.50 w	12	8150	8673	
9	10.25 w	14	7500	7431	
10	17.50 w	12	8325	8673	
11	10.25 w	14	7500	7431	
12	17.50 w	12	8450	8673	Spin. 3 & 4 Sec. 27 Run 7600
13	17.50 w	12	8650	8673	
14	11.50 w	13	7800	7431	
15	17.50 w	12	8500	8673	
16	11.50 w	13	7800	7431	
17	17.50 w	12	8600	8673	
18	17.50 w	12	8700	8673	
19	17.50 w	12	8250	8673	
20	17.50 w	12	8250	8673	
21	17.50 w	12	8600	8673	
22	17.50 w	12	8600	8673	
23	17.50 w	12	8100	8673	
24	17.50 w	12	8650	8673	
25	6.75 w	15	6750	7431	Great variation, Chokes, bad bobbins
26	17.50 w	12	8750	8673	
27	16.00 w	12	8100	8673	
28	16.00 w	12	7950	8673	
29	16.00 w	12	8100	8673	
30	16.00 w	12	7950	8673	
31	14.00 w	12	8100	8673	
32	14.00 w	12	7750	8673	
33	17.50 w	12	9000	8673	
34	8.00 f	16 (?)	6600	....	Spin. 1 & 2 Sec. 3 Run 6250 (Slack Tape)
35	10.00 f	16 (?)	6750		
36	8.00 f	16 (?)	6575		
37	8.00 f	12 (?)	6650		
38	8.00 f	12 (?)	6350		
39	8.00 f	12 (?)	6650		
40	8.00 f	12 (?)	6575		
41	14.00 w	11 (?)	7900	8673	
42	11.50 w	11 (?)	8050		
43	14.00 w	11	8100	8673	Spin. 1 & 2 Sec. 5 Run 7060 & 6800 (Choke on whorl & idler stalled)
44	14.00 w	11	7950	8673	Bobbins 1 & 2 Sec. 23 Run 7200 RPM (Slack Tape)
45	14.25 f	12	7110	7115	
46	14.25 f	12	7350	7115	
47	21.00 f	12	7300	7765	
48	14.25 f	12	7300	7115	
49	6.50 f	14	6250	6145	Chokes around idlers
50	6.50 f	14	6300	6145	
51	6.00 f	14	6400	6105	
52	8.00 f	15	6075		
53	3.75 f	18	4850		(Spin. 5 & 6 Sec. 2 Run 4525 (Slack Tape)
54	2.90 f	22 (?)	4075		Spindles run from 4075 to 3250 (See Notes)
55	17.00 f	12 (?)	7450		
56	14.25 f	12 (?)	7450		
57	14.25 f	12 (?)	7400		
58	8.00 f	14 (?)	6400		Sec. 24 Spin. 3 & 4, Run 6400 top & 5800 at bottom
59	13.50 f	15 (?)	7100		Spin .1, Sec. 8 Run 6250
60	13.50 f	15 (?)	7100		
61	13.50 f	15 (?)	7100		
62	13.50 f	15 (?)	7100		
63	12.00 f	15 (?)	7125		
64	13.50 f	15 (?)	7100		
65	13.50 f	15 (?)	7125		
66	13.50 f	15 (?)	7200		
67	13.50 f	15 (?)	7125		
68	13.50 f	15 (?)	5275		
69	10.00 f	15 (?)	7050		
70	17.50 w	12	5750 (?)	8673	
71	13.00 w	12	8750	8673	
72	13.00 w	12	5800 (?)		
73	16.00 w	12	7950	8673	
74	16.00 w	12	7800	8673	
75	16.00 w	12	8000	8673	Spindle 3 & 4 Sec. 21 Run 7375
76	16.00 w	12	7850	8673	
77	20.00 w	12	8550	8673	
78	20.00 w	12	8500	8673	
79	20.00 w	12	8650	8673	Spindle 3 & 4 Sec. 14 Run 6850 (Slack Tape)
80	20.00 w	12	8500	8673	
81	16.00 w	12	8650	8673	
82	16.00 w	12	8500	8673	
83	16.00 w	12	8500	8673	Spindle 3 & 4 Sec. 33 Run 8000 (Slack Tape)
84	16.00 w	12½ (?)	8250	8673	
85	10.25 w	14	7500	7431	
86	7.00 w	18	5650	5782	
87	11.50 w	12½	8100	8321	
88	8.00 w	14 (?)	5900		
89	7.00 w	18	5650	5782	
90	8.00 w	14 (?)	7250		Spin. 1 & 2 Sec. 1 Run 6850, Spin. 1 & 2 Sec. 6 Run 6200
91	11.50 w	12 (?)	8000		
92	10.25 w	14	7400	7431	1st 8 Spin. Slow 6800 – 7000. Spin. 3 & 4 Sec. 13 Run 5900
93	16.00 w	12	8550	8673	
94	17.50 w	12	8600	8673	
95	20.00 Col.	16	6650		
96	12.00 Col.	16	6650		
97	13.00 w	12	8400	8673	
98	14.00 Col.	16	6650		
99	8.00 w	16 (?)	6600		
100	8.00 w	16 (?)	6650		

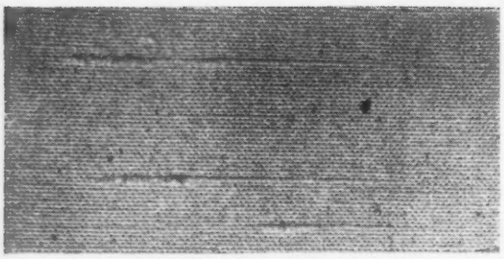


Fig. 2. Filling slubs in enameling duck; for cause see Fig. 3.

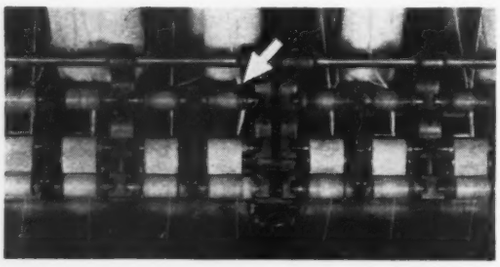


Fig. 3. Crooked trumpet guiding roving out from under fluted part of roll allows second roll to jerk roving in and thus cause slubs.

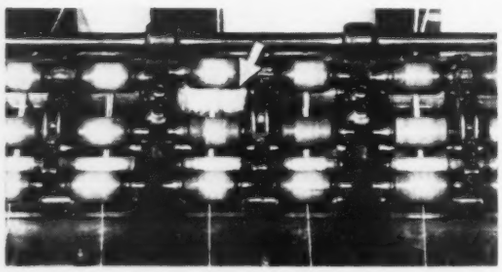


Fig. 4. Lap on back roll; yarn on this spindle is much too large.

us, let us proceed to turn the dial to 8321. The image of the first spindle checked is not completely stationary, therefore, we continue to turn the dial until the spindle is standing still. We find that the spindle speed averages from 4 to 8% slower than standard, depending on current variation, or belt, band, or tape slippage. If the belts and tapes are excessively dirty, the slippage will be more. Few people will admit they have this much slippage, and are losing that much production. However, the writer has recently checked 175 spinning frames, and the average spindle speed was 6.13% slower than the theoretical. Of course, some slippage is to be expected, but approximately half the amount found can be charged to dirty belts and tapes, and the other above-mentioned conditions.

To make a preliminary determination of the average spindle speed of the frame, we now check approximately a dozen spindles. Next we continue around the frame to find out whether the speed of any spindles varies markedly from the average. If an unusual variation is noted, we look for the cause. Any spindle which is running below standard is making soft yarn that will cause trouble on the twister or loom and will produce seconds. (See report on Frame 3 in Table I.) Most common causes of retarded speeds are slack bands and tapes, dirty bands and tapes, and chokes. Other causes have been mentioned above. Still other defective conditions to be watched for are spindles out of plumb, which will vibrate, crooked bobbins, which also will vibrate; worn bobbins, bobbins having chokes and bobbins that fit the spindle improperly which will be running much more slowly than the spindle; thin places in yarn and waste which can be seen as being wound on bobbins; worn travelers; mixed travelers; and ring rails that are not level. Crooked and worn quills should, of course, be taken from spindles and destroyed, as they cause trouble at transfer on looms.

The writer has found it most desirable to have a fixer, and sometimes a second hand, accompany the tester and correct each mechanical defect as it is discovered.

TEST RESULTS. A report of recent tests covering 100 frames is given in Table I. Following are notes on the results of these tests.

Frame No. 25. We found an unusual amount of variation from spindle to spindle.

Frame No. 34. We found that the retarded spindle speed was due to a new tape that had picked up cotton. After it was cleaned and the weights pulled down on the idler, these spindles resumed their normal speed.

Frame No. 43. Spindles 1 and 2, Section 5. We found one of the tapes making 7060 and the other making 6800, which was due to chokes being under the whorls and the idler being choked completely. These had the idler practically stalled. Four bobbins from these spindles are being held in the specification department, and tests have been made. This frame was making 14s warp yarn, putting in 17.5 turns twist.

Table II. Results of check-up of frame No. 25—right hand side

YARN No. 6.75s; 11.7 TURNS PER INCH

SPINDLE	ACTUAL R.P.M.	SPINDLE	ACTUAL R.P.M.	SPINDLE	ACTUAL R.P.M.	SPINDLE	ACTUAL R.P.M.	SPINDLE	ACTUAL R.P.M.	SPINDLE	ACTUAL R.P.M.
1	6600	25	6750	49	6725	73	6725	85	6800	97	6700
2	6625	26	6750	50	6725	74	6725	86	6800	98	6700
3	6800	27	6800	51	6700	75	6800	87	6150	99	6950
4	6800	28	6800	52	6700	76	6800	88	6150	100	6950
5	6675	29	7000	53	6425	77	6725	89	6300	101	6950
6	6675	30	7000	54	6425	78	6725	90	6300	102	6950
7	6825	31	Tape off	55	6875	79	6600	91	6900	103	6950
8	6825	32	Tape off	56	6700	80	6600	92	6900	104	6950
9	6825	33	6700	57	5100*	81	6100	93	6825	105	End down
10	6900	34	6700	58	6800	82	6100	94	6825	106	End down
11	6825	35	6575	59	6475	83	6675	95	6800	107	End down
12	6775	36	6600	60	6475	84	6675	96	6800	108	End down
13	6725	37	6400	61	6475						
14	6675	38	6400	62	6475						
15	6900	39	6600	63	6725						
16	6900	40	6600	64	6725						
17	6800	41	6400	65	6550						
18	6775	42	6400	66	6550						
19	6800	43	6450	67	6650						
20	6725	44	6450	68	6650						
21	6900	45	6400	69	6650						
22	6900	46	6375	70	6650						
23	6950	47	6800	71	6725						
24	6950	48	6800	72	6725						

* Choke under spindle and bad bobbin.

REMARKS: Actual R.P.M. Average = 6671
High = 7000 % Difference = 37.25%
Low = 5100
Difference = 1900
Theoretical Speed = 7441 r.p.m.
Average loss in r.p.m. per spindle = 770

The spindles which were making 7060 were cleaned of their chokes, and the spindle speed picked up. A check on the twist showed that before the chokes were cleaned the spindle was only putting in 12.4 turns twist, and that after cleaning it was actually putting in 16.2 turns against a theoretical twist of 17.5; this illustrates how serious chokes are and why we were having so many soft bobbins.

Frame No. 44. Bobbins 1 and 2 in Section 23 had a slack tape, slowing the spindles down to 7200 r.p.m.

Frame No. 49. There were several chokes on the idlers on this frame.

Frame No. 53. Spindles 5 and 6, Section 6, were running only 4525 against 4850, due to chokes on the idler.

Frame No. 54. This frame was running on 2.9 filling, and we found a large number of chokes on the spindles. However, there was one in particular that puzzled us at first. We found that the average spindle speed for the frame was around 4075, and that one of the tapes was varying from standard to 3250. On checking into this, we found that as the stroke of the traverse reached the top of the build, the spindle speed was 4075, and that by the time the traverse stroke reached the bottom of the build it had slowed down to 3250. The idler was loose and crooked, allowing the tape to drag against the side of the holder; and as more drag was put on the traveler, the bobbin was slowed down. After this was remedied, they ran at the correct speed.

Frame No. 58. We found in Section 24, spindles 3 and 4, that the speed was 6400 at the top of the stroke and 5800 at the bottom. This was due to the tape dragging against the idler holder, and when this condition was corrected, the spindles resumed their normal speed.

Frame No. 59. Spindle 1, Section 8, was running only 6250, due to a large choke under the spindle.

Frame No. 75. It was found that Spindles 3 and 4, Section 21, were slowed down from approximately 8000 to 7375, due to the idler running against the idler holder, retarding the speed considerably.

Frame No. 79. Spindles 3 and 4 in Section 14 on this frame were running 6850, due to a slack tape.

Frame No. 83. Spindles 3 and 4 in Section 83 were running 8000, against a standard of 8500, due to a slack tape.

Frame No. 90. We found that Spindles 1 and 2, Section 1, were running considerably lower than the rest of the spindles, due to slack tape and chokes on the slide and spindles.

Frame No. 92. It was found that the first eight bobbins on this frame were running from 6800 to 7000; also Spindles 3 and 4 in Section 13 were running 5900, against a standard of 7400, because of chokes of the slide not letting the weight apply the proper tension on the tape.

We observed several bobbins on the warp and filling frames that were cracked, and some that were split badly in such a manner that it would take but a short time for these spindles to get out of plumb. Also, several bobbins were so loose on the spindle that it was impossible to put in the proper amount of twist.

Another serious condition was noted; namely, yarn wrapped around the clutch, preventing the clutch from holding the bobbins tight so that the proper amount of twist would be inserted in the yarn; also we found some clutches which did not allow the springs to come out to hold the bobbin, and some of the clutches themselves worn to such an extent that they did not grip the inside of the bobbin.

It was noted on some of the frames that certain spindles were running much faster than others. This probably was due to the fact that some whorls were smaller than others, and is something to be checked up. Another thing that was noticed was that there were several high bobbins throughout the spinning room. Obviously, if the bobbin does not fit down securely over the clutch, the proper twist will not be inserted; also tangled yarn will result.

CHECK-UP OF FRAME. Due to the unusual variation in speed from spindle to spindle on Frame No. 25, we checked the entire right-hand side. Results of this test are shown in Table II. The spindles on this frame had an unusually large number of chokes and some of the worst bobbins which we found in the entire spinning room. Note that Spindles Nos. 57 and 58 were on the same tape. No. 57 had a small choke on the spindle and the bobbin was so badly worn that the clutch did not hold. This bobbin tested 8.4 turns per in. against 11.7 turns standard, whereas No. 58 on the same tape tested 11.2 turns.

The writer estimates conservatively that intelligent use of the Strobotac will permit an increase in spinning room production of 3.5% with no increase in cost per pound of yarn. At the same time, it permits production of yarn of better quality with a reduction in seconds of from 1 to 2%. On a basis of 450,000 lb. per week, the increase would amount to 15,750 lb. This can easily be translated into the increased number of yards of Army duck or other military fabrics needed for waging the war against the Germans and the Japs.

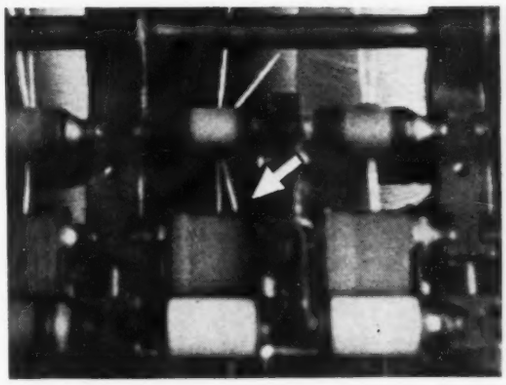


Fig. 5. Roving is split, causing uneven yarn.

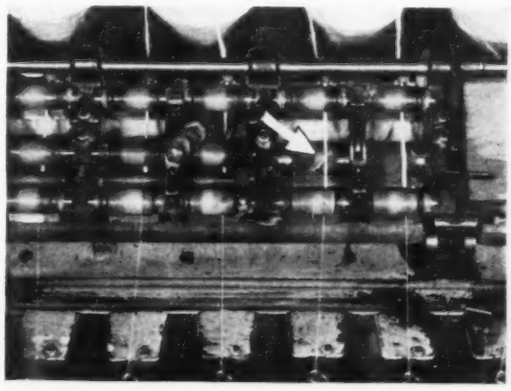


Fig. 6. A torn apron is causing uneven yarn.

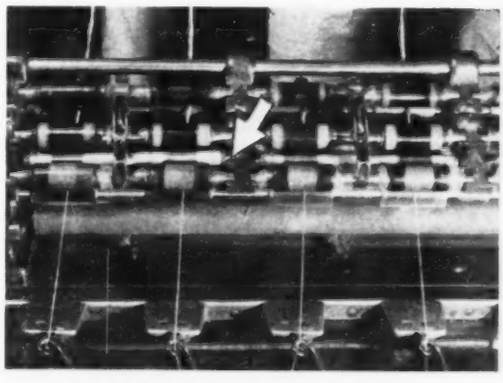


Fig. 7. Pencil roll out of position, making a slub yarn.

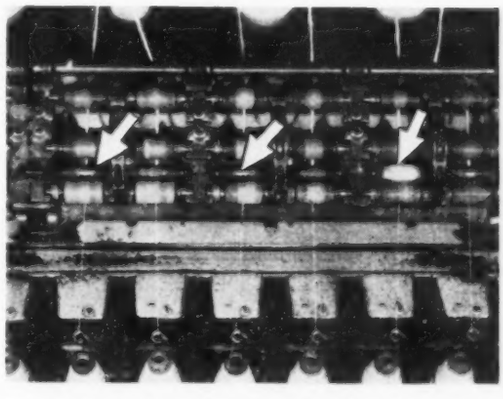


Fig. 8. Covering off a pencil roll and lap; these are causing uneven yarns.

Seersucker and Its Variations

Novel effects possible by combining different weaves and using rayon yarns

By JOHN HOYE

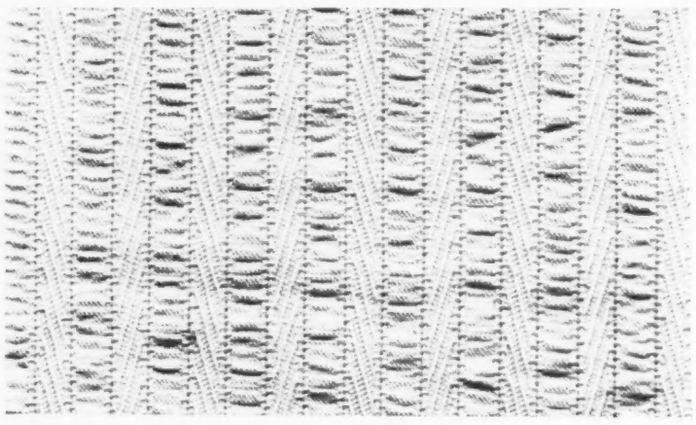
MEMBERS OF THE WAACS will go through their setting-up exercises in style! Philadelphia Quartermaster Depot has just released contract awards for 45,600 exercise suits of seersucker, thus opening a new outlet for this fabric. Seersucker now takes its place among many other cotton fabrics used in assisting the war effort. Civilian use of seersucker is not lacking. This material is in vogue for use in women and children's summer dresses, boy's wash suits, men's summer suits, Riplette bedspreads, Austrian shade cloths, etc.

Fabrics of this class make some of the most practical and useful summer suiting and dress fabrics, as they are cool, easily laundered, require no ironing, and have a lasting crinkle or crepe. Regular seersucker is generally a plain woven fabric with crinkled stripes alternating with flat woven stripes. A similar effect is obtained in finishing by use of caustic soda in so-called plissé crepe (on a converted print cloth or combed lawn).

Seersucker was originally an all cotton cloth. Today other yarns, such as continuous-filament rayon and spun rayon, are used in this type of cloth to create a different drape, handle and decoration; first these yarns were used in the filling and later in the warp. Sometimes seersuckers are made of all-rayon.

Two warp beams are used in weaving. One beam holds the tension ends which form the flat woven stripes (or ground) and the other beam contains the slack woven ends which pucker up to produce the seersucker stripes. Ply yarns are often used to emphasize the crepe stripe and are woven plain or in a rib weave in which each two ends are woven as one with each pick.

In weaving, there is a simple tension-regulating device behind the loom to govern the let-off of the top beam (or slack beam forming the seersucker)—usually a home-made device—which



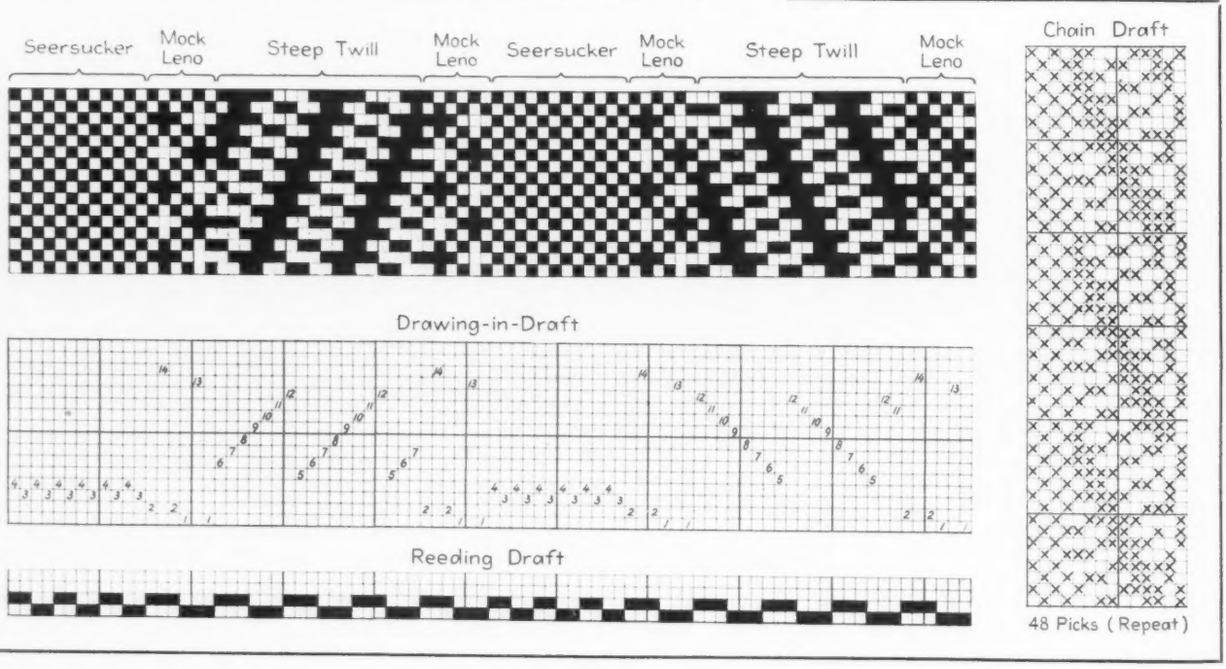


Fig. 1. Novelty seersucker produced by combining weaves. Drawing-in draft, reeding draft and chain draft shown.

permits the weaving of the average seersucker on a plain loom. The seersucker stripe portion of the cloth is usually denser than the ground, and is obtained by reeding three or four ends per dent in the stripe as against two ends per dent in the ground. Sometimes a two-ply yarn or a coarser single yarn is used in the stripe to make it more bulky or prominent.

The cloth may be woven with unbleached yarns and piece dyed or printed. Most seersucker fabrics, however, are woven with natural, unbleached yarns and use colored warp yarns for contrast, the latter being fast to bleaching. Both carded and combed yarns are used. Colored filling yarns are frequently used for check and plaid effects.

Basic fabrics in which seersucker stripings and check effects are employed include chambray, checked madras, and gingham plaids. Other variations include combinations of alternate seersucker and herringbone, twill stripes and seersucker, and pique cord and leno stripe combinations.

In the finishing of seersucker fabrics it is important that all through the bleaching, washing and finishing operation that the goods are run with as little tension as possible in order not to reduce the crinkle effect.

The following is a list of staple and novelty fabrics and their constructions:

EXAMPLES OF SEERSUCKER FABRICS
(Piece dyed or printed)

39 in., 80 x 80, 3.68 yd. Carded
37 in., 80 x 80, 3.40 yd. Carded
37 in., 68 x 72, 4.09 yd. Combed cotton warp; spun rayon filling

EXAMPLES OF WHITE AND COLORED YARN SEERSUCKER STRIPED FABRIC

37 in., 68 x 72, 4.75 yd. Carded—Stripes
38 in., 120 x 112, 4.30 yd. Combed—Stripes (2-ply)
38 in., 54 x 64, 4.24 yd. Carded—novelty check
38 in., 96 x 92, 5.26 yd. Combed—stripes on chambray ground
38 in., 96 x 92, 5.40 yd. Combed—stripes on check madras ground

Photo courtesy Cotton-Textile Institute

Woven cotton seersucker in fast-color plaid is popular for summer suits and dresses for office, street, and sports wear.

Fig. 2. All-rayon seersucker of spun yarn with color effect created by using acetate and viscose yarn. Fabric piece dyed. Drawing-in draft and chain draft shown.

38 in., 80 x 72, 3.25 yd. Carded—alternate pique and leno stripe seersucker

RAYON AND COTTON SEERSUCKER FABRICS

37 in., 68 x 72, 4.09 yd. Carded cotton warp (seersucker and ground); spun rayon filling (piece dyed)
39 in., 88 x 56,
60s Cotton ground
40s Cotton seersucker stripes
150-den. Rayon filling

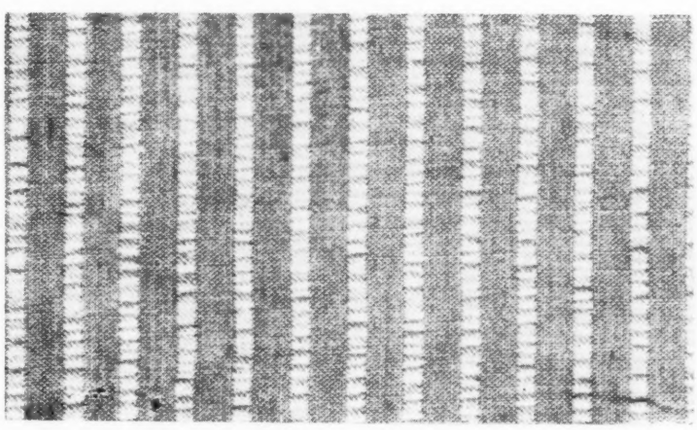
FIG. 1. This fabric illustrates how different weaves can be used to decorate the ground and to form a contrast with the seersucker stripes. The cloth is woven on 14 harnesses; a right-hand and left-hand steep twill weave and a mock leno weave are used alternately with a seersucker stripe. The construction is as follows:

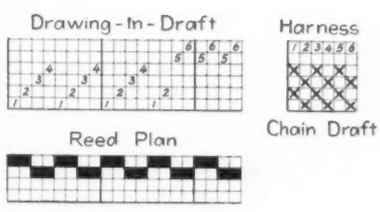
38 in., 96 x 72, 3.00 yd. per lb., carded yarn
Warp—Top beam—seersucker stripe 20s
Ground Beam 35s
Filling—30s

FIG. 2. This fabric is made entirely of spun rayon yarns and is constructed as follows:

40½ in., 68 x 72 over-all count, 3.41 yd. per lb.
Warp—Top beam (seersucker stripe)—12s spun rayon
Bottom Beam (ground)—30s single, blend of 20% acetate and 80% spun rayon
Filling—40s single, spun rayon

This cloth was woven with a plain weave all gray and dyed in the piece—dyeing the acetate blue and leaving the spun rayon white. The fabric could be woven on a plain loom (with the seersucker attachment to help regulate the tension on the seersucker or top slack beam). The seersucker yarn weaves better when drawn through its own harness and not through the ground harness. Selvages can be drawn on the ground harness in a loom not equipped with a separate harness motion.





Knitting the New Hosiery

Further pointers on handling cotton and rayon on full-fashioned machines

By WALTER A. SIMOND

VALUABLE INFORMATION on knitting cotton and rayon hosiery appeared in the series of articles "Advice to Full-Fashioned Knitters," by Max C. Miller, in the April, May, and June issues of TEXTILE WORLD. However, Mr. Miller raised several questions which are debatable and which are worthy of further study by knitters of cotton and rayon hosiery. Some of these debatable points are quoted below and the present writer's comments on each are given.

1. We must accept the fact that it is impossible to produce sheer hosiery with ordinary mercerized or similar yarns; first, because these yarns cannot be spun fine enough, and if they could be they are not inherently strong enough.

A New Hampshire mill has been producing fine mercerized hosiery on 45-gage machines. The comparative breaking strength of unmercerized and mercerized yarns is shown in Table I, which was furnished to the author by E. M. Schenke, research director for the National Association of Hosiery Manufacturers. Mr. Schenke states it has been found that gassed yarns are approximately 5% weaker than ungassed yarns.

The table shows that a 30/2 mercerized yarn is 25% stronger than unmercerized; that all mercerized yarn is stronger than unmercerized of the same twist and count, but the difference is less in the finer yarns, being 2% plus for the 140/2 count.

2. A major objectionable feature of the machine is that yarn is kinked—that is, Couliered—around each pair of needles.

Feeding of yarn or thread to pairs of needles avoids yarn robbing in making the primary kinks, such as occurs in most latch-needle machines, as described, in the November, 1932, issue of TEXTILE WORLD, and illustrated in Figs. 1 and 2. The yarn does not have to be dragged through the throat of the following sinker; and this, together with the fact that the sinkers can have stronger and longer wear-butts than would be possible if no dividers were used, seems a great advantage over an all sinker method.

3. The temper of all needles is not the same, and soft needles naturally flex more readily than stiffer ones.

Modern tempering by saturated heating to a fixed degree with an electric pyrometer prevents all variation in tempering, except such as might be due to variation of carbon content of the steel, and this is so slight that it is doubtful if any stitch variation therefrom could be detected, or fairly attributed to variation in the tempering of the needles. Moreover, with lighter dividing for synthetic yarns the needle flexing would be less and therefore less likely to vary.

4. No adjustment can be made in machines without an adjustable bit, and in bitted machines only the amount of forward needle motion can be crudely varied, but not its timing.

An approved method for timing for dividing was described in the Supplement to Chapter III of "Fixing Hosiery Machines" in the June, 1942, issue of TEXTILE WORLD. The dividing adjustment is empirical and needs to be suited to the fabric—advanced slightly for a lighter divide and retarded a little for a heavier one; and since the dividing is correlative to an invariable movement of the catchbar, the effective distance of needle movement is also varied whether or not the stitch regulating cam is provided with a dividing bit. An important factor which did not enter into the discussion of dividing is that during splicing or split suture knitting there may be a very considerable difference in stitch length in the same course, as shown in Chapter XVI of the "Fixing Hosiery Machines" series, in the May, 1942, issue of TEXTILE WORLD; and all the stitches in such courses must be divided by the same action however obtained.

The stitch regulating cam is unlike most of the cams in the machines, in that the long high dwell is a concentric surface against which the stitch regulating lever may be adjusted. Because this cam must be reduced in radius to enable the presser cams to take control, after the yarn sinking is completed, for the in-and-out motion of press and knockover action, the incline from high to low dwell may be utilized for the dividing motion of the needles without the possibility of interference with the stitch regulation action. Again, whereas the present cams are being used for both stitch regulation and dividing, they afford a perfect union of the two motions without any adjustment of the one to the other. Cams for each of these motions would have to be finely adjusted to each other to obtain perfect dividing, both as to timing and needle position.

5. If now the Coulier depth were made 3/16 in., the divide depth to be correct

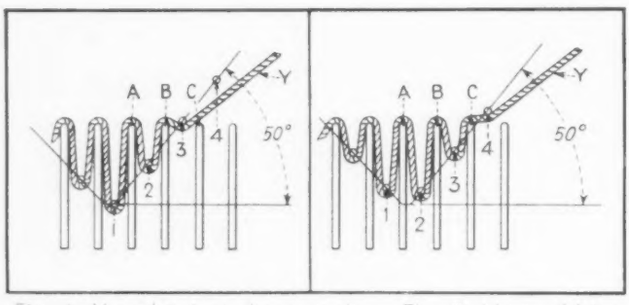


Fig. 1. Yarn bent at sharp angles. Fig. 2. How robbing occurs.

Table I. Comparative breaking strength of unmercerized and mercerized cotton yarns.

Yarn Size or Count	*Single End Breaking Strength Unmercerized* (grams)	*Mercerized* (grams)	*Ply Twist Turns per Inch All Yarns*
30/2	600	750	11
140/2	165	170	26
40/1	215	220	17
80/1	95	100	25

would then have to be $\frac{3}{32}$ in. deep.

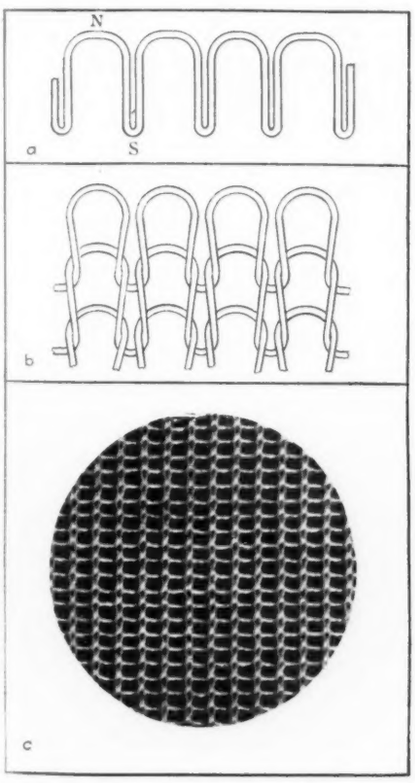
For knitting 4-thread gum silk on a machine as coarse as 42 gage probably 46 courses per inch would be specified; and 1 in. divided by 46 equals 0.02173 in. for finished stitch length. Were the kinking motion 0.062 in., the dividing motion indicated as 0.031 in. would have to be increased by, perhaps, 0.015 in. for rayon to flex the needles and keep the kinks taut, since there would be no appreciable backward flexing of the needles by the kinking of a course.

6. Further, the shape of the needle-divide portion of the cam must be so formed as to bring the needles forward and then backward in unison with the forward-and-backward movement of the dividers, up to the point where the needles beards are closed against the press edge of the machine.

As shown in the Supplement to Chapter III previously mentioned, the backward movement of the needles for dividing is controlled by the stitch regulating cam, and the forward motion to the press by the presser cam.

7. Properly conditioned gum silk, when kinked with correct divide, will appear as illustrated in Fig. 3.

It should be noted that in all probability the photograph was made before the boil-off, and, therefore, shows more difference in kink formation than would be found in the finished fabric. Moreover, the comparison with Nylon and other synthetic yarns seems unfair, since the silk sample was apparently of a much finer gage, showing 21 courses, as against 16 or 17 in the other photomicrographs. A true comparison would require that samples be of the same gage, and photomicrographs made from the same focal distance. Some synthetic hose must be made of heavier yarns, but they could be compared with heavier silk; and the showing of silk versus Nylon could be of the same size thread. The variation in stitch shape is probably due mainly to the pliability of the yarn in its natural state and the amount of softening by the conditioning permitted for the best working characteristics of the yarn. It seems possible that sinker and needle wales of the same size might appear of finer mesh than large needle wales and small sinker wales as shown in Fig. 3.



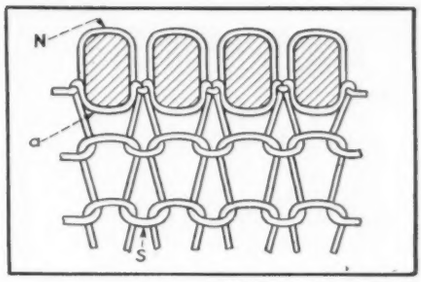
Miller, T. W. May, 1942

Fig. 3. Appearance of kink or loop formation of knitted silk full-fashioned fabric.

Actually, the shape of stitch formation is in a large part the result of machine design. The thickness of the needles and the sinkers and knockover bit shape are controlling factors as related to the gage of the machine. The cross-sections of needles shown in Fig. 4 are approximately two-thirds of the spacing thick, allowing only one-half the thickness of the needles for a space between needles. In early English machines, the thickness of the needles was said to be equal to the distance between them. A pair of needles from an English 30-gage machine of about the year 1895 measures 0.022 in. thick x 0.044 in. below the eye, and by 0.050 in. at the cast base, for a spacing of 0.05 in. Our 42-gage needles now measure 0.014 in. thick x 0.032 in. for a spacing of 0.0357 in.; as shown in Fig. 5. To match Fig. 4 the sketch has been drawn to scale of approximately 10 to 1. If Fig. 5 is compared with Fig. 4, a great difference in shape will be noted which would surely have its effect on needle and sinker wales.

8. If the rayon yarns the knitting industry is now trying to use were of sufficient strength, a great many of these difficulties could be overcome by knitting needle-tight.

Most wholesale houses demand hosiery with a specified number of courses —about 44 for 5-thread, 46 for 4-thread, and 48 to 50 for 3-thread in 42 gage per inch; secondly, it is doubtful if "needle-tight" knitting can be successfully narrowed on full-fashioned knitting machines. The leg narrowings are made in the shortest stitch used. Some approximate idea of the stitch length required for narrowing can be obtained by calipering the needle and point in contact as in narrowing. Push a narrowing point through a ticket first and



Miller, T. W. May, 1942

Fig. 4. Fabric knitted needle tight.

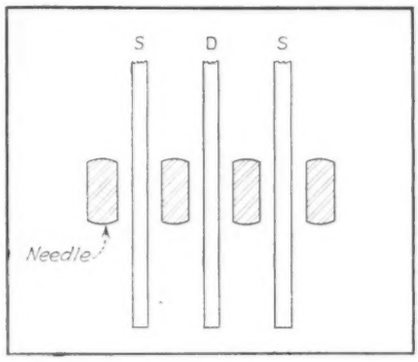
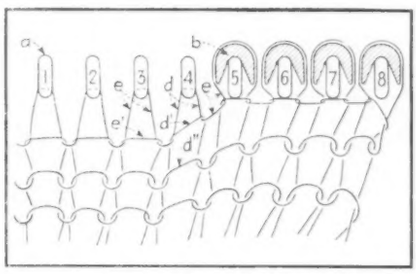


Fig. 5. Needles for 42-gage machines are 0.014 in. thick X 0.032 in.; actual spacing 0.357 in., 28-needles per in.



Miller, "Knitting Full-Fashioned Hosiery"

Fig. 6. Points on needles.

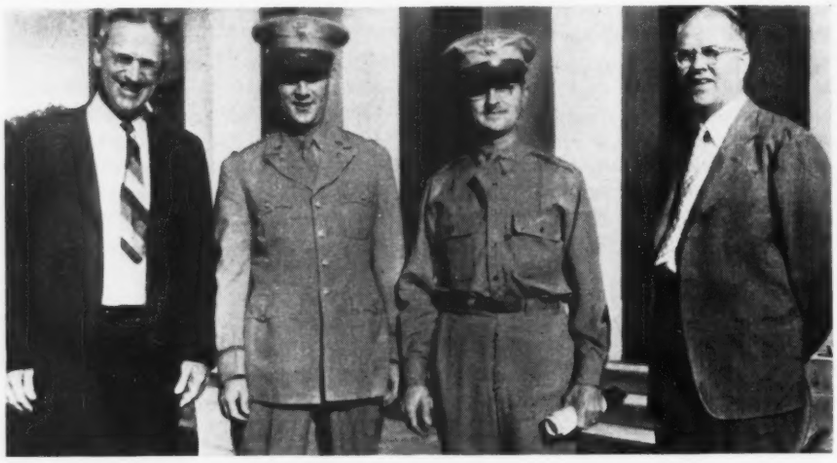
than a needle to the narrowing position and in 42-gage they will caliper about 0.0255 in. x 0.042 in., or to average about 46% over the size of the needle alone at the stem. Obviously no thread or yarn would withstand such elongation, nor could the thread be robbed from adjacent stitches in the leg narrowings. Probably, the loop heads of the prior course are pushed backward in narrowing. In "Knitting Full-Fashioned Hosiery" published by McGraw-Hill Book Co., Mr. Miller has an excellent chapter, No. XIV, on "Loop Distortion in Narrowing," and his scale drawing, reproduced in Fig. 6, shows clearly that the individual loops must be large enough to encompass both the needle and point while narrowing—moreover, large enough to permit of the necessary distortion where the inside narrowing points carry over to the second needles at the narrowing marks.

Georgia Men Meet at LaGrange

Operating men see QM exhibit; told of employing women and plant protection

THE TWENTIETH ANNIVERSARY meeting on Sept. 19 of the Textile Operating Executives of Georgia, was held away from Atlanta for the first time in the history of the association. LaGrange, Ga., was chosen to make it easier for mill men to attend, and Callaway auditorium was opened to the association.

A feature of the meeting was the display by the U. S. Army Quartermaster Corps of textile articles for military use. For over an hour before the meeting overseers, superintendents, and other executives examined the Army clothing and equipment with keen interest. Many of the basic fabrics were production of the mills represented at the gathering. The mill men expressed their appreciation of the display, since so few had ever examined the final products in which their fabrics are used. Technical problems that are usually discussed at these meetings were postponed so that the men could devote their full attention to the military display and the vital messages of the speakers.



At La Grange: (left to right) F. S. Blanchard, president, Textile Research Institute; Lieut. Col. J. P. Baum, Q.M.C.; Maj. Chas. A. New; Jas. C. Platt, Chicopee Mfg. Co.

That employable women must be secured for the Georgia textile industry from every possible source was the advice of Thomas H. Quigley, State Director of the U. S. Employment Service, who addressed the gathering. Tom Quigley has recently relinquished his work in vocational education in Georgia, in which he has been known by Georgia mill men for a number of years, to take this new connection. The U. S. Employment Service, through its relation to the War Manpower Commission, is likely to assume increasing importance to mills, particularly as the labor supply in Georgia is being rapidly absorbed in the armed forces and war industries, and further drains are imminent.

Jobs should be analyzed and graded, said Mr. Quigley, so that work loads may be assigned to women of various capacities. Small women should not be required to lift materials that can be assigned to stronger persons through proper job study. Women may be secured who are not employed in industries essential to the war effort. Although skilled workers cannot be made in a few months, as claimed in some quarters, special measures can be adopted in up-grading, assignment and training that will help overall efficiency. Demands by the essential war industries of the State, Mr. Quigley stressed, will force employers in other industries to seek out and train all available womanpower. Other possible sources of labor were considered by Mr. Quigley but none of them seemed to be readily adaptable to the textile skills.

Lieut.-Col. John P. Baum, chief of the clothing division, Army Quartermaster Corps, Washington — formerly known as Johnny Baum, assistant manager of Pepperell Mfg. Co., Opelika, Ala.—explained the uses and constructions of the textile articles in the QM display. In his address to the meeting, the colonel gave a picture of the Quartermaster problems and impressed on his listeners the important part played by the textile industry in the war effort. He stressed that his branch of the service recognised the problems of the industry in meeting the requirements of the Army, and congratulated them on their cooperation. Static estimates of fabric requirements, he said, cannot be made, due to the rapidly changing requirements of warfare. He quoted figures on quantities of fabrics delivered in the first six months of 1942 by textile manufacturers, and said that even greater deliveries must be made in the final half of 1942.

"From January through June of this year," he said, "textile manufacturers delivered to the Quartermaster Corps over 45,000,000 yd. of uniform cloth and well over 50,000,000 yd. of herringbone cloth. During the same period, cutters produced in excess of 8,000,000 cotton shirts. Underwear, that is, knitted undershirts and shorts, in the amount of well over 25,000,000 were delivered. Last spring, the Quartermaster Corps made procurements for duck for all of the different arms and services. For the Army alone over 140,000,000 yd. of tentage duck and substitutes were procured, while during the last half of this year much larger amounts are scheduled for delivery."

At the conclusion of the colonel's address, H. C. Erwin, civilian associate of the chief of the clothing division, was introduced to the group.

PLANT PROTECTION against fire and sabotage was reviewed by Maj. Charles A. New, plant protection officer, Fourth Corps Area War Plants, Atlanta. Major New before his entry into service was production supervisor of Judson Mills, Greenville, S. C. He has already aided many textile plants in working out effective plant protection measures. In his talk, the major stressed that most careful attention be given to detail recommendations of his office, since neglect can be disastrous. Safety is part of plant

(Left to right) G. H. Hurst, Webster Adams, J. P. Cooper—all of Muscogee Mfg. Co.

protection and should be given special attention. Major New insisted. Reorganization of the Fourth Corps Area into the Fourth Service Command of the Internal Security Division with two branches, Continuous Security Branch and Emergency Security Branch, was explained. The continuous Security Branch, formerly known as Plant Protection Inspection, covers the following points: fire protection, investigation of personnel, employees, physical control, power, employees' identification, and guards. The Emergency Security Branch has to do with military protection if troops are needed in a situation which cannot be handled by local or State law enforcement agencies.

Mill-housekeeping must be so well organized, Maj. New stated, that waste and other materials cannot pile up to create fire hazards. Daily inspection of the sprinkler tank gage, hose, and valves is vital. Conservation of equipment and supplies for protective measures, and holding to minimum requirements in ordering necessary new supplies will help the war effort. Maintenance crews, welders, and electricians should be cautioned to make temporary installations as safe as possible. All personnel should be required to fill out in detail the carefully planned personnel questionnaire as recommended by the Internal Security Division. Numerous plants, the major said, are having their production disrupted by careless employment of those who have previously proved their undesirability for employment in a war-contract plant.

"You are doubtless familiar," said Maj. New, "with the recent order from the War Department requiring that all guards sign the agreement as auxiliary to Military Police Corps of the United States Army. Otherwise they will be relieved of guard duty in your plant. At a future date an officer will contact your plant for the purpose of instructing your guards. It is suggested that if you have, as an example, only seven guards, including watchmen employed, a guard auxiliary of approximately ten men should be organized. These individuals should be carefully picked with their World War record in mind. This group should sign the guard agreement and be included with the regular guards listed to receive military instruction in the use of various arms in dealing with enemy paratroops and in other emergencies that may arise from time to time."

R. C. S. ("Scotty") Young, new head of the Textile Welfare Association in LaGrange, made an inspirational talk on the need of increased awareness on the part of every American to the realities of war and its effect upon all of us.

ELECTION OF OFFICERS for the new term gave J. H. Daughdrill, general superintendent of Callaway Mills, the position of general chairman, succeeding Erwin R. Lehmann, superintendent of Langdale (Ala.) Mill, whose term

Comer Turley (left) and Bob Simmons (right), both from Lindale plant of Pepperell Mfg. Co.

expired. Vice-chairman succeeding Mr. Daughdrill is Julian M. Longley, agent, American Thread Co. W. R. Beldon, manager, Clark Thread Co., retired from the executive committee, and Laurence R. Brumby, general superintendent of Bibb Mfg. Co., was elected in his stead.

Erwin Lehmann, retiring general chairman, expressed the appreciation of the association to Callaway Mills and to Fuller E. Callaway, Jr., for the gracious hospitality extended the association. Many members of the Callaway organization were present and assisted in entertaining the visiting members. Local children gave a series of clever dance numbers, immediately followed by a plate lunch served at temporary tables in the auditorium. Afterward many members stayed to talk over points of interest, and to go over the Callaway's well-equipped building.

Among the out of State guests attending the meeting was Fessenden S. Blanchard, president of Textile Research Institute, New York.

(Left to right) Edwin H. Vorhees, Bedeaux Dept., Callaway Mills; Harry H. Purvis, superintendent, Chicopee Mfg. Co. of Ga.; J. G. Maddox, Oakleaf Plant, Callaway Mills.

(Left to right) S. P. Parker, weaving technologist; Joe J. Hinds, standards division; A. U. Priester, Jr., Hillside Plant—all of Callaway Mills.

Rayon Blends on Worsted System

Correct front-roller height important in gilling; proper blending essential

Carding and combing of rayon staple fiber on the worsted system were discussed in the first article of this series which appeared in our September issue. Finisher gilling and blending of rayon top with wool top are described in detail in the present installment. Mr. Smith, the author of this series, has had a wide experience in the textile industry and is now head of the worsted division, sales service department, of American Viscose Corp.

By ROBERT A. SMITH

TO PRODUCE FINISHED TOP, it is our practice in the Textile Unit of American Viscose Corp. to give the comb sliver two processes of gilling. The first gill is a single-head intersector with only one modification. This modification concerns the funnel used for introducing false twist. We find it advisable to increase slightly the amount of false twist put in the sliver. At the feed end of the gill the usual projecting rack of draw off rolls is installed over the cans to assist in lifting the rayon comb sliver without disturbing it by dragging over the can edge. These rolls are not provided with top rolls, because it is difficult to adjust their speed with the speed of the back rolls. Since a rayon sliver does not have the same amount of extensibility as a wool sliver, a pair of rolls that give a positive feed may cause the rayon sliver to droop or else gradually get so tight that it breaks down. By passing the slivers over the single driven rolls they receive sufficient assistance to come out of the can without breakage. At the same time there is a slight slippage which prevents an excess feed to the back rolls.

Specifications for the first finisher gill box are as follows:

32 fallers; 12 pins per in.; No. 17 wire (0.056 in.) single row.

Pitch $\frac{7}{8}$ in. double cam.

Drops per minute = 490.

Usual draft = $5\frac{3}{4}$ to 6.

It is helpful on balling-head gill boxes to wind the delivered sliver on a paper tube having an inside diameter of 2 in. The value of this lies in the fact that the balls retain their cylindrical shape and unwind in the next operation with considerably less licking and with absolutely no possibility of tumbling out of the creel. With finished top which is frequently stored for some length of time, this is particularly valuable. It also allows the ball to be run out in the creel without having to unwind considerable yardage by hand toward the end of the ball. The photograph of the two-spindle gill box (Fig. 2) clearly shows these tubes.

Most of the wooden cores on gill boxes are such that they can be readily turned down to provide a snug fit for a 2-in. diameter. When turning down the wooden core, it is well to leave a shoulder on one end so that the paper tube can be properly centered by the operator.

For the second finisher gilling, an intersecting gill box with a double balling head delivery and the usual worsted unballing creel is used. There are no special suggestions needed in the operation of this machine other than those which have already been discussed.

Specifications for the second finisher box are as follows:

32 fallers; 14 pins per in.; No. 17 wire (0.056 in.) single row.

Pitch $\frac{7}{8}$ in. double cam.

Drops per minute = 490.

Usual draft = $5\frac{3}{4}$ to 6.

A top sliver weighing 4 oz. per 5 yd. is desirable and the one most usually encountered in the trade. There is no reason why lighter or slightly heavier ones cannot be made when they will be of advantage in producing blend percentages. It will be noted that no further oil is added after the $1\frac{1}{2}\%$ applied before carding. An analysis of our rayon top indicates that we are getting the expected $1\frac{1}{2}\%$ of extractable matter. In connection with blending procedure, which will be given in more detail later, we find that this percentage of oil is quite satisfactory.

FRONT-ROLLER HEIGHT is a subject of sufficient importance to merit separate consideration. The theory we have to present applies only to gills of the intersecting type.

The diagram in Fig. 3 shows the usual position of the front rollers on a gill box as set up to run wool. Note that the nip of the front rollers is below a line *A* drawn from the nip of the back rollers to the center point between the front faller bars. This position of the front rollers causes them to pull the fibers more deeply into the pins of the bottom set of fallers. Since the faller pins have a greater diameter at their base than at any other point in their length, it is obvious that the deeper the stock is pulled the less room is left between the pins to accommodate it. This feature does not seem to affect the processing of wool, due to the fact that

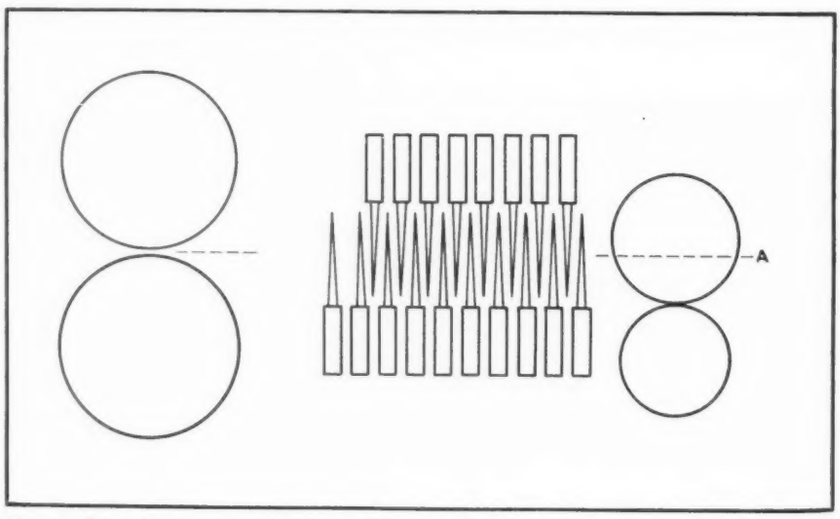


Fig. 3. Sketch showing position of front rollers on a gill box as set up to run wool.

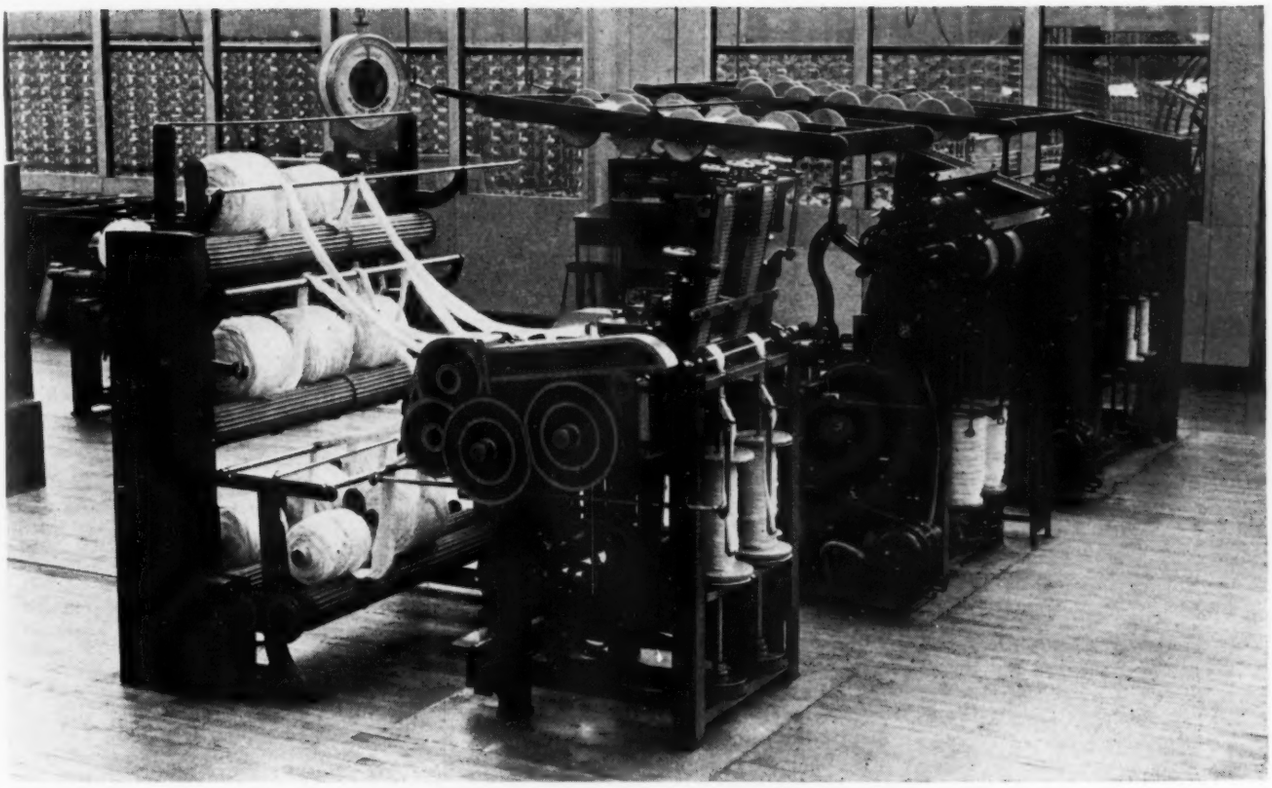


Fig. 2. Two-spindle gill box in Textile Unit of American Viscose Corp.; note paper tubes on which sliver is wound; these tubes have several advantages as described in the text.

the natural crimp and loftiness of the wool fiber prevents it from packing into the base of the pins to such a degree that it is jammed.

Rayon staple fiber, however, is more sensitive to compression than wool, and we have experienced cases where the rayon packed so tightly that there were broken fibers looped around every pin in the forward bottom faller. Naturally, when this bar dropped out of action the broken fibers went forward as a "faller mark." This started a succession of neps that looked like a snow storm in the finished fabric.

This was overcome by the simple expedient of raising the nip of the front rollers to the center line *A* indicated in the sketch. Since the box is of the intersecting type, there is no danger of the sliver riding the pins; therefore we see no reason for any harmful results from this practice. At any rate, our neps disappeared. That seems to be sufficient recommendation.

Mills using open gill boxes obviously will find it impractical to raise the nip of the front rollers, since that would tend to cause "riding" of the fallers. The best solution in this event is to use faller bars with but a single row of pins. The number of pins and the size of the wire should be such that a very open pinning results. No hard-and-fast rule can be given for this, because a lot depends on the total weight of fiber that the pins are required to accommodate. The only advice that can be given is to be sure there is plenty of room for the stock at the base of the pins.

BLENDING WITH WOOL TOP. At this point, the writer wishes to state most emphatically, "Do not add any further lubrication to the rayon content. Add the lubrication to the wool content, preferably while giving the wool top *alone* a preparatory gilling."

With a simple 50-50 blend of wool and rayon, first determine the average weight of the rayon sliver. Then gill the wool top alone, using whatever draft is necessary to produce a top of the same weight as the rayon top. While doing this, apply a emulsion to the wool. If a tint is desired, it is added as part of the content of the emulsion. In this operation about 3% of oil is added. The emulsion recommended is a 70% water, 30% oil mixture, in which the oil is preferably the same oil that was used before carding.

By the time blending is started it will be found that the emulsion has dispersed through the wool top, so that when the rayon is introduced there is no actual wetting of the rayon fibers. Wetting of rayon fibers is something that should be strictly avoided whenever a gilling operation is involved.

To prevent ragged edges at the delivery side of the gill box, it will be found advantageous to feed the rayon in the center, keeping the wool toward each edge. We strongly urge that the blending be conducted on a balling head gill box. This is advisable because of the differences in the nature of a rayon sliver and that of a wool sliver.

Due to its crimp, wool sliver has a tendency to contract to a much greater degree than rayon sliver. Therefore, when the two slivers are introduced to each other through a gill box, the front rollers tend to straighten out the wool fibers and the rayon fibers. If this delivery is then dropped into a can, the wool portion will contract, whereas the rayon will not. This results in a looped or scalloped effect in the rayon portion of the combined sliver. These loops frequently become entangled when feeding into the next machine, and a great deal of the parallelism which has been achieved up to this point is destroyed. In the balling-head type of delivery the sliver is under restraint, and this scalloped effect is eliminated.

(In the next installment of this series Mr. Smith will discuss the necessary characteristics of fibers to be blended and the drawing and spinning operations.—*Editor*)

Interesting Design Possibilities

Fabrics produced on hand-loom are duplicated on power machines

By FRED W. STERLING

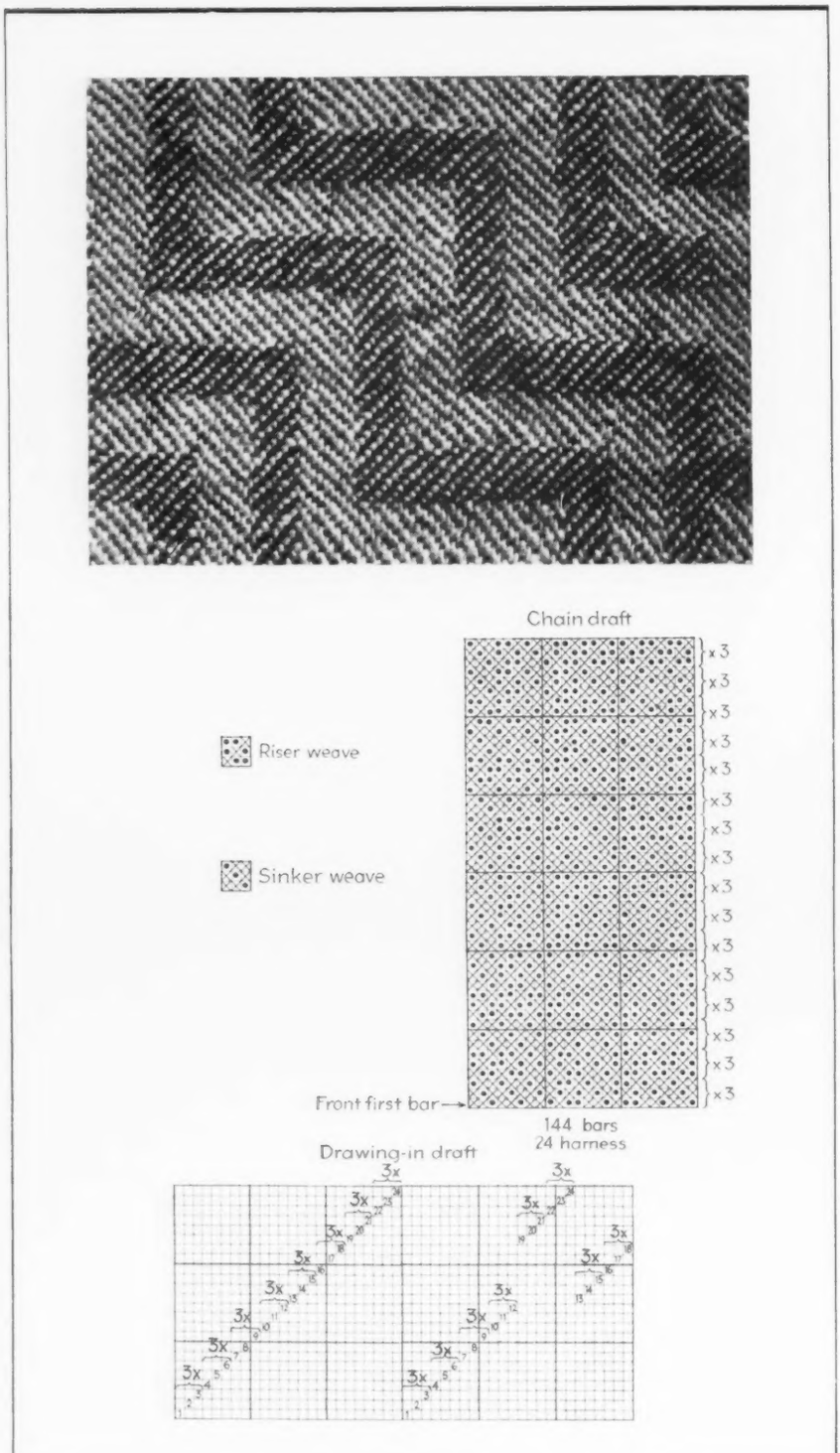


Fig. 1. Color effect in fabric obtained from a motif.

HAND LOOMED FABRICS have always been a source of interest to designers because of the many possibilities they offer from the standpoint of new and unusual ideas in fabric development. Uncommon among hand looms are those capable of weaving fabrics on 25 harnesses. A novel fabric woven on such a loom was presented in the August, 1942, issue of TEXTILE WORLD. Other fabrics woven on this loom are described in this article, along with drawing in drafts and chain drafts suitable for use on a power loom.

A colored motif effect in which each riser in the motif is represented by a 1/3 weave and each sinker by a 3/1 weave is shown in Fig. 1. A design of this type would be adaptable to drapery and upholstery fabrics.

Of somewhat different construction is a double fabric plaid illustrated in Fig. 2. A basket weave was used as a motif, but each riser is represented by a double weave with a 2/2 basket face and a 2/2 twill back. Each sinker is represented by a double weave having a 2/2 twill face and 2/2 basket back. The warping plan is 1 dark and 1 light end, and the filling plan is 1 light and 1 dark pick. The solid color areas are made by reverse warping and picking for 16 ends. This makes an excellent design for coat fabrics.

Plaid back basket weave, as shown in Fig. 3, is of unusual appearance. The weave is laid out 1 face, 2 back, using a 2/2 basket weave for the face and a 2/2 twill for the back. The warp dressing plan for this fabric is given. This fabric would be suitable for spring coats.

A double fabric with the design appearing in reverse on each side is illustrated in Fig. 4. This double plaid idea with the pattern made by passing each fabric from face to back or from back to face is developed from a motif to occupy 20 harness on 112 bars. Such types are suited for upholstery or coat fabrics in standard constructions.

A good example of what can be accomplished with a simple 18 harness point draw is shown in Fig. 5. The warp is dressed 1 dark and 1 light end and filling is picked 1 dark, 1 light. Fabric suitable for upholstery uses.

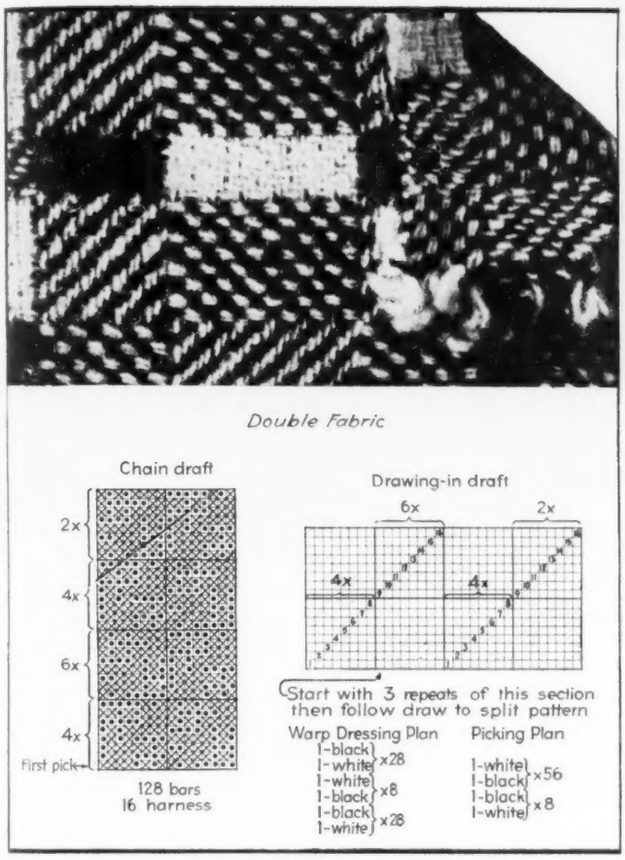


Fig. 2. Double fabric plaid.

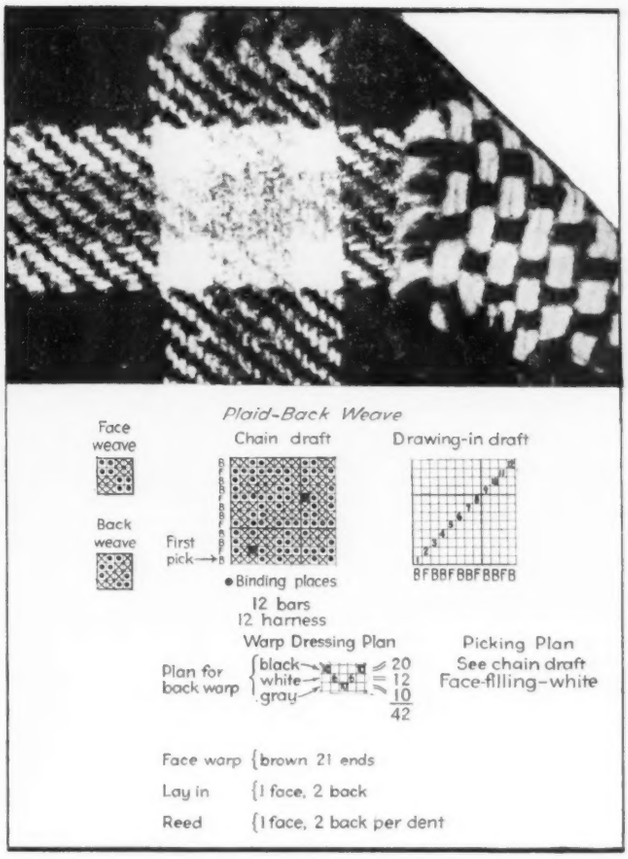


Fig. 3. Plaid back basket weave of unusual design.

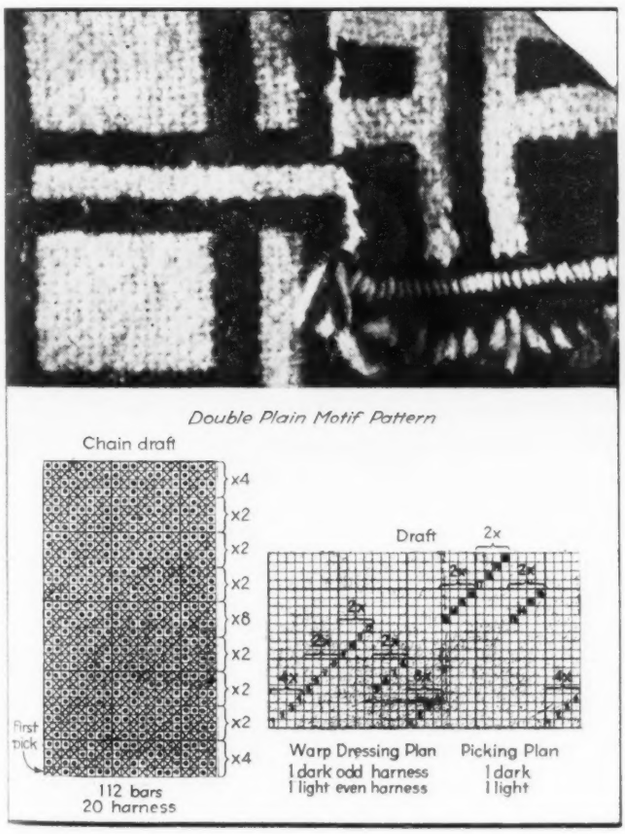


Fig. 4. Double fabric, plain weave with reverse design on either side.

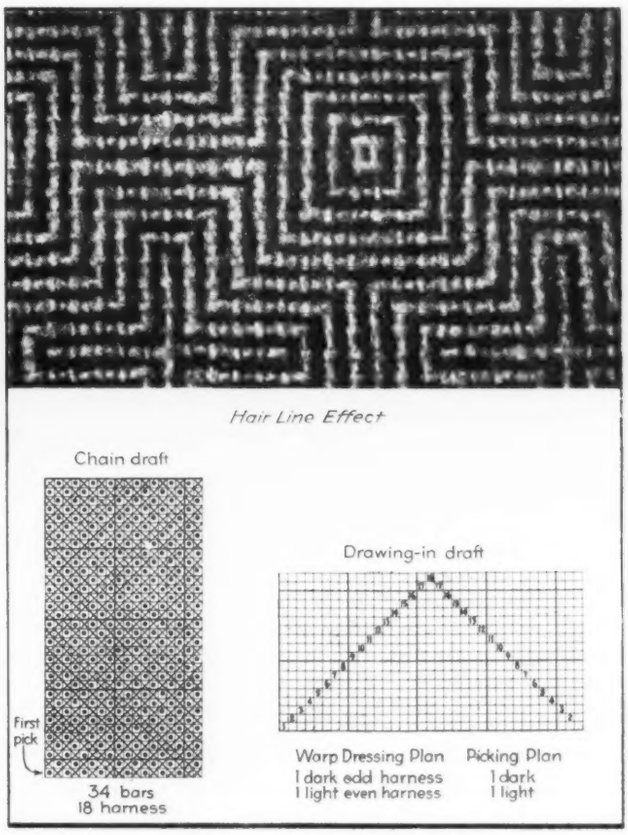


Fig. 5. Unusual hairline effect is produced by a simple point draw.

Card-Room Maintenance

Inspection charts will keep mill management informed on machine condition

By E. H. HELLIWELL

INSPECTION CHARTS are an essential part of any maintenance program. They will give an indication of undue wear of machine parts, the need of repair or replacement, the efficiency of lubrication and cleaning schedules, and furnish the mill management with a report of the condition of card-room machinery.

Simplification of method and procedure should be the prime objective sought in laying out an inspection program. Many well-intentioned programs have been discarded because of the impracticability of following out multitudinous details of an over-complicated program. A carefully planned program can be simple and yet be effective. In compiling inspection forms, one should not attempt to list all the different parts of machines separately. There are hundreds of parts on even a simple machine, and a complete list would make the forms unnecessarily complicated. For the same reason, all possible machine defects that may be found cannot be listed in advance on forms.

The simple but effective method of grouping all related parts together on forms will save space and make checking of parts much easier and quicker, and will assure that all parts have been inspected. For simplicity, all the parts in any piece of card-room equipment may be broken into fifteen separate groups. Each group has a heading and the sub-headings of the groups will cover adequately all machine parts that should be inspected. Groups are indicated by letters as shown in the key, and this is supplied to all employees who make out the machinery inspection forms. Use of a key simplifies the listing of groups in the tables. This method of grouping simplifies the listing of parts, and makes it much easier to locate the desired part on the list and to mark the nature of the defect when found.

It will be found that the first seven headings listed in the tables are common to all machines to be inspected in the card room. The remaining eight headings contain groups of parts that are common to one or more machines. Use of the symbol letters on each group and the numbers on the subdivisions makes it much easier to state the exact location of the defect or failure on the reverse side of the inspection sheet where entry should be made by the inspector giving the machine number and details of the failure.

Each item on the inspection forms should be marked with a check mark for each machine if found to be in good condition, and marked with a cross if it requires attention of any kind. Explanation of attention required is made on the reverse side of the inspection sheet. In addition to the complete periodical machine inspection, there are short-term inspections that must be made faithfully and regularly. Some of the items daily checked are card, drawing and roving frame tensions; picker, drawing, and roving weights; weekly inspection is made of belts, speeds of top rolls, traverse motions, and for waste removal and cleanliness.

(In a subsequent article, Mr. Helliwell will discuss lubrication and lubrication forms.—*Editor.*)

Machinery Inspection Key

(A) PULLEYS ..... Loose on shaft or keyway, pulley free.

(B) SHAFTS ..... Worn, sprung.

(C) STUDS ..... Worn, loose, sprung.

(D) BEARINGS ..... Worn, out of alignment, oil pipes free, faulty lubrication.

(E) GEARS ..... Worn, set too deep or too shallow, loose on keyway or shaft, broken teeth, choked with waste.

(F) ROLLS ..... Necks or bearings worn, sprung, grooved, eccentric, loose at joints, flutes dirty or burred, incorrect settings, faulty lubrication.

(G) STANDS ..... Worn, binding, out of alignment, faulty lubrication.

(H) APRONS ..... Tension; slats, belting, links, broken or missing; canvas torn.

(I) BEATERS ..... Dull, rough, pins bent or missing, bent blades, out of balance, settings to rolls and grids and cut-off plate, boxes, chambers, safety locks.

(J) GRIDS ..... Bars broken or missing, rough, burred, settings incorrect.

(K) SCREENS ..... Bent, broken, rough, loose seams or end strips, leathers.

(L) FANS ..... Blades broken, bent or loose, balance, leaks.

(M) CLOTHING ..... Shedding, short, faced, holes, loose, dull, licker teeth bent.

(N) FLYERS ..... Pins, pressers, tubes, slots, rough, balance.

(O) MISCELLANEOUS .... *Comb boxes—oil tight, rattle, temperature*

Flat chains—loose, stretched, worn, uneven.
Brushes—worn, short, setting, matted.
Spindles—loose in bolster, tight, slots, point worn.
Steps—loose, worn.
Bolsters—loose, worn.
Traverse—worn, length of stroke, lost motion, dwell.
Weight chains and sheaves—too long, lubrication.
Neb bars—worn, setting.
Trumpets—gage, set.
Clearers—nap, clean, matted.
Cone belt—tension, starting point.
Builder—worn jaws, dog.

Maintenance — Machinery Inspection

FEEDERS

Date.....

Machine No.	1	2	3	4	5	6

(A) PULLEYS
1. Drive

(B) SHAFTS
1. Drive

(C) STUDS
1. Apron and roll

(D) BEARINGS
1. Apron shafts
2. Comber roll
3. Stripper roll

(E) GEARS
1. Apron drive

(F) ROLLS
1. Comber
2. Stripper

(H) APRONS
1. Feed
2. Pin

OPENERS

(A) PULLEYS
1. Galley

(B) SHAFTS
1. Cross

(D) BEARINGS
1. Top, ball bearing
2. Bottom step

(I) BEATERS
1. Vertical

(J) GRIDS
1. Bars
2. Fill-in

Maintenance — Machinery Inspection

PICKERS

Date.....

Machine No.	1	2	3	4	5	6	7	8	9	10	11	12

(A) PULLEYS
1. Beater
2. Fan
3. Feed

(B) SHAFTS
1. Long side
2. Cone
3. Calender drive

(C) STUDS
1. Feed roll
2. Cage drive

(D) BEARINGS
1. Beater 1st
2. Beater 2nd
3. Beater 3rd
4. Fan 1st
5. Fan 2nd
6. Fan 3rd
7. Feed roll 1st
8. Feed roll 2nd
9. Feed roll 3rd

(E) GEARS
1. Feed roll drives
2. Calender head drive
3. Cage drives
4. Cone drive

(F) ROLLS
1. Feed rolls
2. Draw rolls
3. Calender rolls
4. Lap rolls

(G) STANDS
1. Evener

(I) BEATERS
1. Three blade 1st
2. Two blade 2nd
3. Kirschner 3rd

(J) GRIDS
1. 1st section
2. 2nd section
3. 3rd section

(K) SCREENS AND FANS
1. 1st section
2. 2nd section
3. 3rd section

(O) MISCELLANEOUS
1. Evener
2. Cut-off plates
3. Frictions
4. Lap bars

Maintenance — Machinery Inspection

CARDS

Date.....

Machine No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14

(A) PULLEYS
1. Tight, loose
2. Doffer and licker
3. Band

(B) SHAFTS
1. Side

(C) STUDS
1. Band pulleys
2. Doffer gear
3. Lap roll
4. Coiler

(D) BEARINGS
1. Feed and lap roll
2. Licker, cylinder doffer

(E) GEARS
1. Feed roll
2. Side shaft
3. Doffer
4. Flat drive
5. Calender and coiler

(F) ROLLS
1. Feed and lap
2. Calender and coiler

(G) STANDS
1. Setting
2. Grinding
3. Stripping

(K) SCREENS
1. Cylinder
2. Licker-in

(M) CLOTHING
1. Cylinder
2. Doffer
3. Flat
4. Licker-in

(O) MISCELLANEOUS
1. Combs, doffer, flats
2. Brushes, small spiral
3. Flat chains
4. Mote knives
5. Comb boxes
6. Front and back plates
7. Flat ends

Machinery inspection forms mentioned in text. The back of each form carries the Repair or Replacements Required heading shown below.

Maintenance — Machinery Inspection

DRAWING FRAMES

Date

Machine No.	1	2	3

(A) PULLEYS
1. Bottom and top
2. Main

(B) SHAFTS
1. Long bottom

(C) STUDS
1. Middle and back roll
2. Draft gear
3. Tension drive
4. Calender roll
5. Coiler, table

(D) BEARINGS
1. Bottom shaft
2. Out, front roll

(E) GEARS
1. Front roll
2. Middle and back roll
3. Draft and crown
4. Tension train
5. Coiler and table

(F) ROLLS
1. Front roll, bottom
2. Second roll, bottom
3. Third roll, bottom
4. Back roll, bottom
5. Calender
6. Top rolls

(G) STANDS
1. Roll

(O) MISCELLANEOUS
1. Trumpets (gage)
2. Traverse
3. Stop motion
4. Spoons and bars
5. Coilers
6. Can tables
7. Clearers, top and bottom

Maintenance — Machinery Inspection

ROVING FRAMES

Date.....

Machine No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14

(A) PULLEYS
1. Tight loose

(B) SHAFTS
1. Jack shaft
2. Long lifter
3. Spindle, bobbin

(C) STUDS
1. Draft gear
2. Back and middle roll
3. Twist train
4. Lifter train
5. Horse head
6. Compound

(D) BEARINGS
1. Head end
2. Top and bobbin cone
3. Spindle and bobbin shaft
4. Lifter shaft
5. Weight sheaves

(E) GEARS
1. Roll drive
2. Twist train
3. Tension train
4. Compound
5. Bobbin, spindle
6. Lay train

(F) ROLLS
1. Front, steel
2. Middle, steel
3. Back, steel
4. Top rolls
5. Sliver roll

(G) STANDS
1. Roll

(N) FLYERS
1. Pins, tubes, slots

(O) MISCELLANEOUS
1. Traverse
2. Neb bars
3. Weight chains
4. Clearers
5. Cone belt
6. Builder

REPAIR OR REPLACEMENTS REQUIRED

Machine No.	Group Symbol	Division No.	Description
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			

Inspectors Need Keen Vision

Tests reveal relative importance of factors requisite to proper inspection

Results of tests to determine what visual factors are most important in inspection of textiles were reported by Dr. Arthur W. Ayers, of American Viscose Corp., at a recent meeting of the Middle Atlantic Educational Congress. The following abstract of Dr. Ayer's paper merits attention of all textile executives who are desirous of increasing the efficiency of their inspection departments.

Courtesy American Viscose Corp.

To be proficient, inspectors must have keenness of vision.

THE BEST INSPECTORS are those who exhibit superior visual test findings having to do with "keenness" of vision. Age, length of time on the job, and use of eyes away from the job bear no relationship to job performance of inspectors. For appraising an individual's capacity to inspect textiles, several tests of vision are of value. These findings are among those resulting from tests of a group of 45 women engaged in final inspection of cones of rayon yarn.

The task of the inspectors was to examine cones for the following defects: broken filaments, oil streaks, rust and dirt streaks, breaks in the winding process, yarn bunches, and soft winding. To discover if any inspectors were failing to identify defective units, the foremen made a daily check over a two-week period of ten cones classified as first quality by each inspector. The total number of units handled by each inspector in the course of the work day was recorded. The foremen also kept a record of the total number of cones set aside by each inspector for the foreman's decision together with the number of units which the foreman believed should not have been held for him. The data collected gave rise to the following four criteria of job performance:

1. Incidence of failure to identify defective units.
2. Average hourly production.
3. Incidence of units which should not have been set aside for foreman's decision.
4. Total units set aside for foreman's decision.

The records indicated that inspectors who failed to identify defective units were not only leaving more units for the foreman's decision, but also more cones which should not have been left for him. Conversely, inspectors showing no failure to identify defective units were also leaving fewer cones for the foreman's decision and fewer units which should not have been left for him. Inspectors who ranked high in production showed a tendency toward failure to identify defective units and left more units for the foreman's decision than should have been left for him.

VISION DATA were obtained by a battery of 15 tests carried out in the plant dispensary. By correlation technique, it was found that six tests of vision have a positive relationship to the job-performance criteria. Of the inspectors who failed three or more of the tests, only 7% were proficient in inspection. It was found also that some other vision tests appear to be of value in appraising the capacity of an individual to inspect textiles. Further, it was discovered that the inspectors who did the better quality of work showed superior visual test findings having to do with "keenness" of vision.

The tests of vision, together with the standards which should be met, are given in the accompanying table. The standards set up in this study have been applied to corrected as well as naked vision. Therefore, it is believed that corrections worn by inspectors should enable them to meet these standards. Readings in the last two tests in the table not conforming to the standards of the experiment may be accepted, providing the individual does not fail to meet the standards for "passing" set up by the designer of the tests.

Tests and standards for appraising capacity of an individual to inspect textiles

*Diagnostic Stereopsis (at the equivalent of 30 in.)	A reading of 45% or better on the Keystone stereometric series.
*Binocular fusion (at the equivalent of 16 in.)	Ability to fuse the four test items into three.
*Accommodation Near Blur Point Far Fade Point F.F.P. Minus N.B.P.	A near blur point reading of less than 14.5 centimeters provided the far fade point is 42 centimeters or greater. (Beren's Rule)
Ametropia (sharpness of image) at the equivalent of 16 in.	Responding correctly to five or six test items with each eye.
*Visual Acuity (at the equivalent of 16 in.)	.50D binocular and monocular vision on test type card No. 1981 American Optical Co. or its equivalent.
*Lateral Imbalance	A reading ranging from 8 to 10.5 at the equivalent of optical infinity and 4.5 to 7 at the equivalent of 16 in. (Keystone stone Visual Safety Tests).
*Vertical Imbalance	Test line in contact with the dot (Keystone Visual Safety Tests).

*Tests having a positive relationship to the job-performance criteria.

FIXING HOSIERY MACHINES

CIRCULAR MACHINES—Chapter XVIII—Split-Foot Machine

By JULIAN W. HUGHES

SPLIT-FOOT HOSIERY, as manufactured on the Banner split-foot machine, consists of a sole and spliced heel knitted with a separate feed from the main knitting yarn feed. With the present hosiery machine of this type, the main or body yarn—which for the duration is likely to be rayon of high twist—is fed by an auxiliary yarn finger, and the heel splicing, heel, sole, ring toe, and toe are fed by the regular yarn fingers on the opposite side. During the knitting of the ankle and the foot, as well as the heel and the toe pockets, the cylinder oscillates to bring the needles to the two separate yarn feeding points. The suture seam on the sides of the ankle and foot is joined in a manner to simulate the foot of the English type of full-fashioned hosiery.

Characteristics of split-foot hosiery are illustrated in Fig. C47. The ribbed top of a sock is knitted on a rib machine and transferred to the cylinder needles in the conventional way; or it may be knitted on a machine with any suitable yarn from the rear, or No. 5, yarn finger on the regular yarn feeding side in conjunction with the Banner elastic feed. The ring top *1*; the spliced heel *4*, and the sole; the heel *6*, ring toe *11*, and the toe *13*; are knitted from other yarn fingers on the regular cam side. The leg portion *2*, and the upper foot portion are knitted with the main, or body, yarn which is fed at the auxiliary side. While this finger is feeding the main yarn, circular knitting continues until the point *3* is reached, when rotary-reciprocal knitting continues until the ring toe is ready to be knitted.

THE HIGH SPLICED HEEL is knitted at the regular knitting cam side and is done on the short butt needles which occupies one-half of the needle circle. It will be noticed that in addition to the regular portion of the spliced heel indicated by *4*, there is extra reinforcing at *5* which extends into the heel pocket *6*. This point is where the wear on the article is greatest and thus prevents the shoe from wearing a hole just above the heel. During the knitting of the spliced heel the portion *4* is fed with one or two durable yarns as may be desired. When one yarn is fed at the portion *4*, two yarns are used when the portions *5* and *5'* are knitted. The knitting at this point is actually a plating. If two yarns are fed at *4*, then three are used at the reinforced portion.

The heel pocket *6*, is knitted by narrowing and widening in the usual manner, but the needles used are usually three less on either side. Thus the number of short-butt needles is six less than one half on the circle. This needle arrangement extends the suture seams of the spliced heel—indicated at *7*—three wales in from point of gore.

The suture seams of the spliced heel are either continued through the foot along the same wale as illustrated in Fig. C47b or it may be dropped down several needles as indicated by *9*, Fig. C47a, so the junction of the upper foot and sole will not show when low, light shoes are worn. This feature is particularly desirable when women's hose are knitted on this type of machine. The position and length of the foot suture seams *9* may be varied to suit the fancy of the designer, but it is customary to drop the seam line sixteen needles on either side below the seam line *7*. The line *9* may be continued to the ring toe *11*, or only part way and continued to the ring toe, or only part way and from there on half the needles as at *10*. The ring toe *11*, is knitted circular in the regular manner and with yarn of the same count as that used in the toe. The toe is constructed in the same manner as the heel, and it is desirable to introduce a reinforcing yarn as indicated at *13*.

A SIMPLE IMPROVEMENT, but of great importance, is the method of feeding the body, or main, yarn. Formerly the main knitting yarn, usually of silk or rayon, was fed from a yarn finger on the regular feed side at the right-hand side until the ankle portion was reached and rotary-reciprocal knitting commenced; then a similar yarn was introduced by the auxiliary feed on the left-hand side to knit the front portion of the instep and top of the foot. Differences in the yarn from two cones often caused a slight variation of stitch in the leg and foot and often a difference of shade after the article was dyed. Feeding one yarn from the auxiliary side not only brought about greater uniformity of stitch and of dyeing qualities, but saved needed space on the yarn stand by making it possible to use one cone of main yarn instead of two.

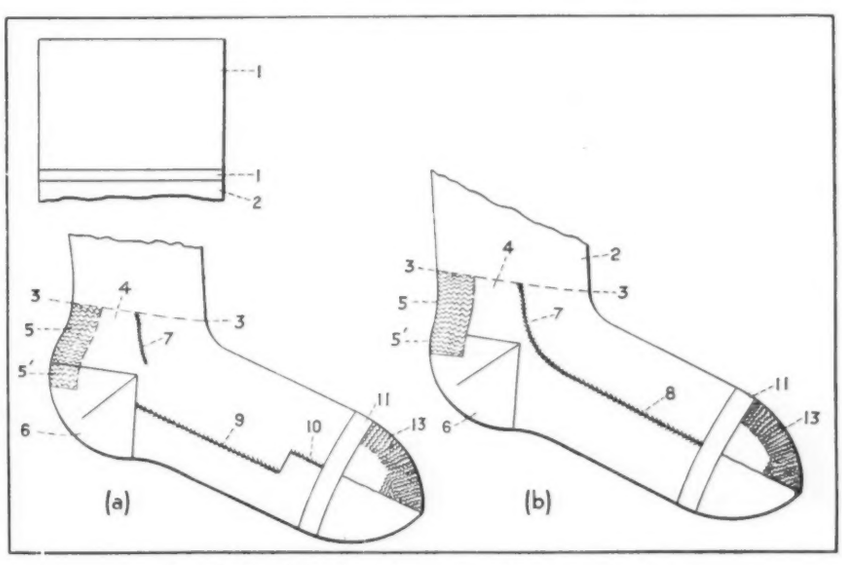


Fig. C47. Split-foot hose showing construction.

LOOMFIXERS' MANUAL

RAYON AND SILK SECTION—Chapter VII (Cont.)—Filling Stop-Motion

By H. E. WENRICH

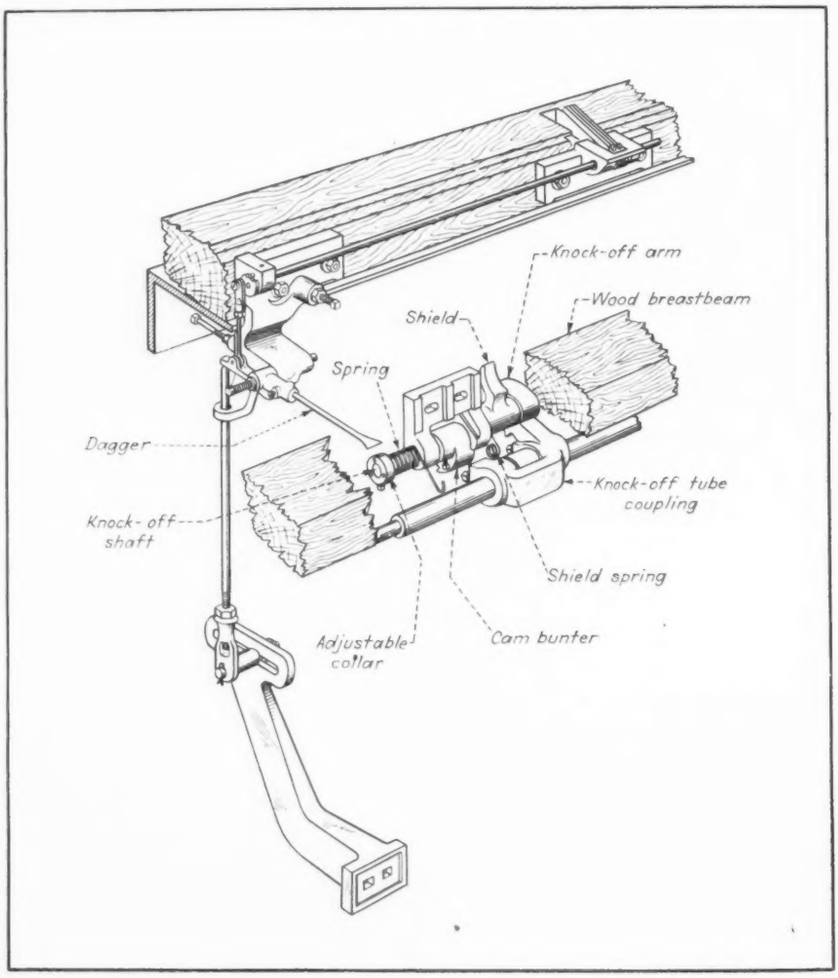
LAGS HOLDING THE BREAST BEAM assembly stand to the breast beam sometimes are torn completely out. Under such conditions a fixer should drill two holes through the breast beam so two long bolts can be used in place of the lags. The nuts should be tightened over the stand so the assembly can be removed without removing the bolts.

When removing broken stop-motion parts, a few simple suggestions will help to accomplish the task in the quickest and easiest manner. The shield spring can be loosened by using a small wrench, permitting the spring to slide to the side of the loom where it can be removed and replaced with a new one quickly. If new bolts are available when replacing shield springs, place a new bolt so the head can be filed square to fit on the curve of the spring and prevent the bolt from turning while tightening. Should the spring be slightly large, a piece of emery cloth or sandpaper slipped between the spring and shipper rod will prevent the spring turning while the loom is in operation. When the spring turns, it fails to function properly and allows the shield to drop down after each forward movement of the lay. A spring should have a slight bend near the upper end for the shield to rest on after it has been forced upward by the roller. If the roller strikes too hard and the spring is forced tight against the shield, there is a slight bump transmitted to the breast beam when the roller strikes the shield rod each pick. When a slight amount of play is allowed in these parts the bump is avoided.

In removing broken shields, the shield can be slipped along the roller rod to the rod coupling and removed. Wherever possible, replace all bunter shields with split shields to facilitate further repairs. When removing broken or damaged cam bunters, the breast beam assembly stand must be loosened as well as the rolling rod stand on the breast beam on the side to which the rolling rod is coupled. A cam bunter can be removed and a new one replaced many times without disturbing the woven cloth.

Fig. RS 39 illustrates a center stop motion with side breast beam assembly on the Crompton & Knowles S-3 loom. In this type of motion, after the dagger strikes the cam bunter, the knock-off motion is transmitted through the knock-off shaft to the knock-off arm, which presses downward on the knock-off tube coupling. This action is transmitted to the brake mechanism which is then applied, stopping the loom. It is stated by some fixers that the shield spring of the type used in Fig. RS 39 will cause less trouble than the shield spring shown in Fig. RS 38, August issue, page 103. This type spring can likewise be had with an adjusting collar to fit onto the shipper rod for breast beam assemblies as replacement for the flat shield spring. Intensity of such a spring is controlled by the adjusting collar.

Another point of difference in the assembly in Fig. RS 39 is the elimination of the shield rod. In this assembly the shield is lifted into its "on" position when the loom is in operation by the adjusting stud and nut on the side adjustment stand striking the upper nose of the shield. Intensity of knock-off assembly is controlled by the spring and collar on the knock-off shaft.



Crompton & Knowles Loom Works

Fig. RS 39. Center stop motion with side breast beam assembly as used on C & K S-3 looms.

TEXTILE EQUIPMENT NEWS

Switchgear Transaction Streamlined

By E. H. BECKERT
Switchgear Division, General Electric Co.

SAVINGS UP TO 50% in the purchaser's and the manufacturer's time previously required to decide on the switchgear needed for a job, order it, and get it into production are being made, according to E. H. Beckert, General Electric Co., Schenectady, N. Y. Two factors are responsible for the saving. Factor number one is standardization of equipment, already accomplished by leading switchgear manufacturers. Without it the scheme would be unworkable. Factor number two involves the use of a one-line diagram by the purchaser in his request and the use of a combined one-line diagram and perspective outline picture of the equipment by the manufacturer in his proposal.

This method short cuts the preparation of detailed specifications by both purchaser and manufacturer and, as well, eliminates much of the proposal routine preliminary to the actual placing of the business and often a great deal of correspondence after the order is received. A typical case will illustrate how the new method works. A mill plans to erect a small plant and needs switchgear to control and protect the distribution system. The engineer on the job knows the total amount of power required and he must select the system of distribution he desires to use and the distribution voltage; he must know how his load centers are located and the capacity of the feeders required for each of these centers. The size of the plant is such that the engineer decides to distribute power at low voltage with the stepdown transformers located outside the plant. He wishes to control the incoming service and four feeders to load centers with space on the switchgear control board for a possible future feeder. The one-line diagram scheme could be applied equally well had he decided to distribute at high voltage with stepdown transformers at load centers, using the unit substation system.

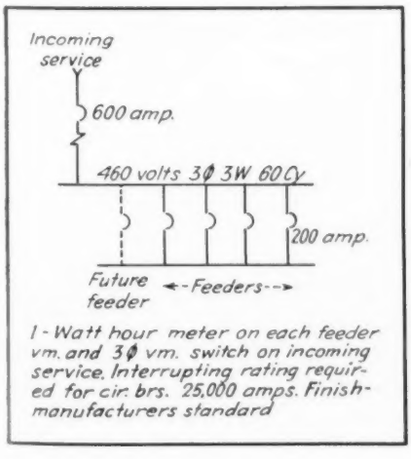

Incoming service
600 amp.
460 volts 3Ø 3W 60Cy
200 amp.
Future feeder
←-Feeders-→
1-Watt hour meter on each feeder vm. and 3Ø vm. switch on incoming service. Interrupting rating required for cir. brs. 25,000 amps. Finish-manufacturers standard

Fig. 1. Customer's request diagram.

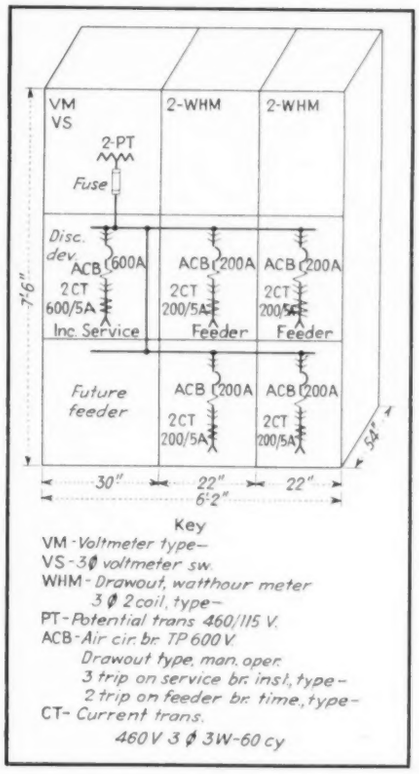


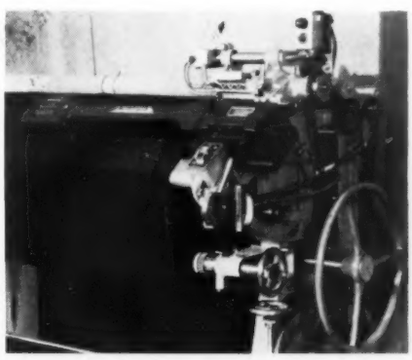
Fig. 2. Manufacturer's proposal diagram.

The manufacturer readily determines the standard equipment applicable and prepares his bid. This consists of (1) a letter quoting prices and estimated shipping date; (2) a drawing which is a dimensioned perspective outline of the equipment containing a one-line diagram showing the connections of each unit with a keyed list of each unit's equipment; (3) a set of stock descriptive sheets that describe details of the equipment offered; and (4) a set of brief specifications containing only such general essential data as machine and circuit capacities, general reference to descriptive sheets, and a limited amount of other data not easily covered on the drawing.

The mill then places its order in a form as simple as: "One Switchgear Equipment in accordance with Proposal No. so-and-so." In completing the order, of course, the manufacturer provides the usual drawings including front view and complete wiring diagram for operating purposes. Their preparation is coincident with the manufacturer of the equipment, and not a part of the negotiations. All manufacturers on a transaction of this kind will take pride in safeguarding the customer's interests and in furnishing equipment that will fulfill all requirements.

Measuring and Recording Meter

A measuring instrument called the Trumeter, developed by Trumeter Co., Ltd., Manchester, Eng., is available in this country through their branch office



Measuring device attached to a rolling frame (Trumeter).

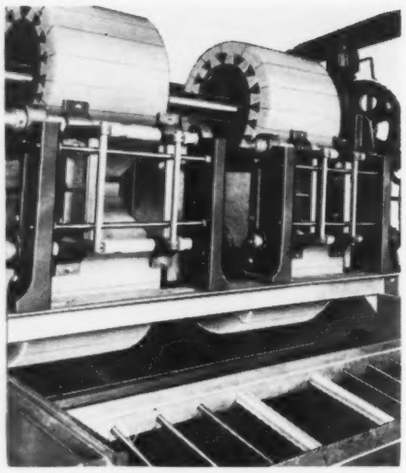
at 1265 Broadway, New York. Designed for measuring accurately the length of cotton, silk, rayon, woolen and worsted fabrics, carpeting, etc., a printed ticket setting forth the yardage to the nearest $\frac{1}{8}$ yd. is stamped at the end of any piece of fabric measured.

The Trumeter may be attached to any measuring, rolling, plaiting, doubling or inspection machine. Correct table measurement without tension and without rolling or lapping is obtained and the amount of cloth run at any moment is shown by a recording meter. At any desired point on a run the exact measurement may be recorded by pressing a lever which stamps a ticket with the yardage. The meter immediately resets and is ready for another run. Space is provided on the ticket for the operative to fill in the quality number and the loom number. A ticket attached to the cloth provides a permanent record of yardage and eliminates the possibility of human error where yardage tickets must be filled in by hand.

Fulling Mill Built on New Principle

A new fulling mill that is a radical departure from previous design and construction practice has recently been announced by Rodney Hunt Machine Co., Orange, Mass.

The principal innovation of the Rohunta Express model is in the arrangement of the frame and tub. Usually the tub has had to support the rolls and other heavy equipment of a fulling mill, and hence has had to be extra heavy and strong. This new model fulling mill consists of a frame to support the rolls, drive, packing boxes, etc. From this same frame is supported a light, strong tub that was designed to serve its essential purpose—that of a container for the cloth. The tub has laminated plastic sides and a stainless steel bottom. Basic advantages of thus divorcing the frame from the tub are that the frame can be designed for maximum strength and efficiency without waste of materials, and the tub can likewise be built as a tub without having to modify its design and construction to support other mechanism.



Packing box and guide assembly on the Rohunta Express fulling mill introduced by Rodney Hunt Machine Co. Stainless steel adjustable front guides are made a part of the packing box which is brought forward in front of the rolls.

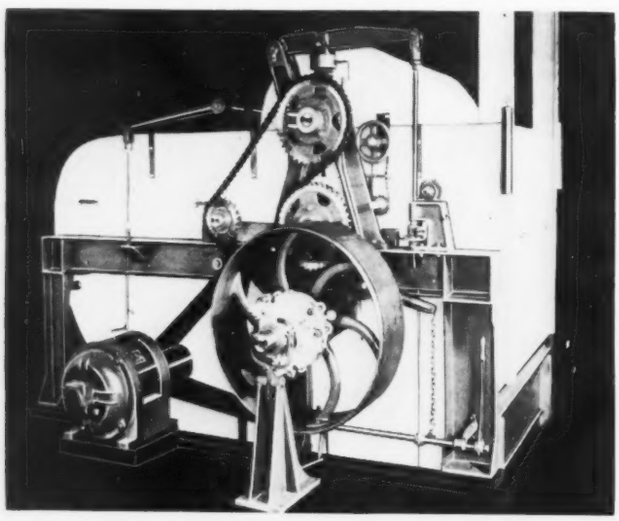
Another major improvement in design is the easily demountable superstructure of the fulling mill. The hood, front and back sections can be removed by two men in five minutes. By means of convenient handles, the three sections can be taken off and the entire mechanism of the machine exposed. Thus the top roll can be removed directly from the machine by chain falls, and the packing boxes, guides and bottom roll are readily accessible. Other features of the new mill are the improved coil-spring method providing pressure on the top roll (originally developed for washers), and strong packing box frames with individually adjustable stainless steel guides incorporated as part of the packing boxes themselves.

Magnifying Eye Shade

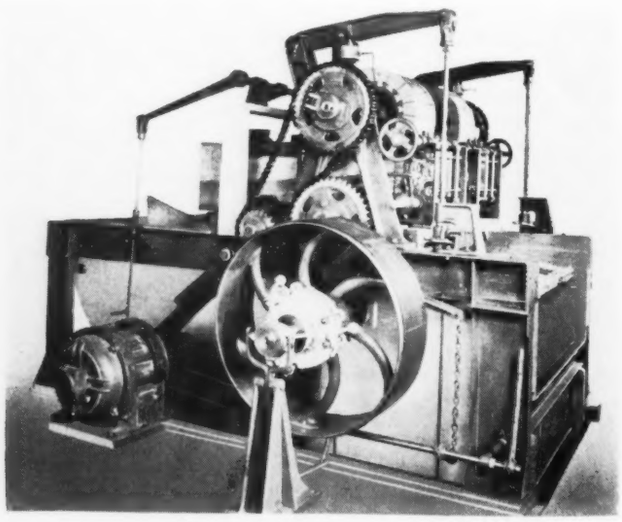
An eye shade, developed by Edroy Products Co., 480 Lexington Ave., New York, is provided with stereoscopic five-power magnifying lenses. By tilting the head the object viewed may be magnified and where the lenses are not required the wearer may look from beneath the shade with his normal vision. The shade, made of plastic and held in position by a band, permits the free use of the wearer's hands. Also, protection to the eyes of the wearer is provided from flying particles.

Thumb-spray Attachment for Extinguishers

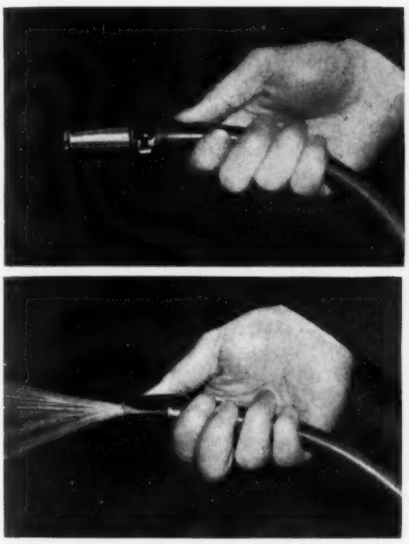
Fires such as magnesium incendiary bombs and certain industrial fires are fought with a spray as well as a solid stream. Most standard fire extinguishers, however, discharge only a solid stream. Intended to combat such conflagration is a thumb-spray nozzle attachment developed by Pyrene Mfg. Co., Newark, N. J. The device simply clamps over the $\frac{3}{8}$ in. hose and nozzle of any standard soda-acid, foam, gas cartridge or pump tank fire extinguisher. The thumb-spray is a perma-



Left view shows complete Rodney Hunt fulling mill unit.



Right view shows fulling mill completely dismounted.



Spray attachment for standard fire extinguisher. Top view shows how the device is clamped to a hose while lower view illustrates the spray produced (Pyrene).

nent attachment made of spring steel with a deflector edge which influences the range and distribution of the spray for maximum effectiveness. This safety device can be used as a spray on certain industrial fires which can be approached within 6 or 8 ft., or to speed the burning and disposal of a magnesium bomb. The normally solid stream is converted into a spray by applying pressure with the thumb at the end of the attachment. Since this conversion takes place only after the liquid leaves the nozzle, the extinguisher itself is not affected. Operating pressures, chemical reactions or normal streams are not impaired by the use of this device.

Useful Accessories for Textile Mills

A new type corrugated container has been developed by The Simp-L-Ock Co., Hartford, Conn. Use of an ingenious snap-in top eliminates the use of staples, tape, glue, silicate and labels. This top may be removed by dealers to display merchandise to customers and then replaced without marring the appearance or strength of the package.

A solenoid operated butterfly valve for emergency duty has been developed by R-S Products Corp., Philadelphia. This solenoid operated valve provides two-position control—either automatic opening or wedge-tight shut-off in case the electric power fails or is turned off because of a war emergency.

Mill Maintenance Section

Cleaning Paint Brushes

Fast disappearing from the civilian market are paint brushes, as bristles for top quality brushes came from eastern Asia. Eight points covered in a recent issue of *Dutch Boy Painter Magazine*, published by National Lead Co., if followed, will prolong brush life.

1. After using a brush, wipe out as much paint as possible against a wire screen or on a piece of expanded metal lath nailed to the inside of a box or to a sheet of wallboard.

2. Following the piping off of surplus paint on the screen, submerge the bristles in benzine or turpentine and work the paint out with the fingers.

3. After soaking and "fingering" out much of the remaining paint, slap the bristles against the inside of a barrel or drum to remove paint and solvent.

4. A discarded comb comes in handy for combing out some of the pigment that has settled at the base of the bristles.

5. A stiff wire brush, used with plenty of elbow grease, also helps to remove much of the paint that has collected at the heel.

6. After removing all the paint possible with screen, fingers, comb and wire brush, rinse the bristles with a half-gallon of white gasoline.

7. To clear the bristles of "lice" and solvent, spin the brush over a barrel or box by rolling the handle briskly between the palms.

8. When a brush is to be put away for any length of time, it should be wrapped and tied as it was when you bought it. Before wrapping, however, the bristles should be well cleaned and filled with linseed oil soap lather. Store the brush in the basement or some other place not too hot or dry.

Caring for Industrial Lighting

Better performance and greater efficiency at lower operating costs are the direct benefits of a complete inspection and well-organized maintenance program for industrial fluorescent and incandescent lighting, according to engineers at the Westinghouse Lighting Division of Westinghouse Electric & Mfg. Co. In addition, critical materials such as aluminum, copper, bronze, and nickel are conserved and the normal life of the fixtures are substantially increased.

Luminaries should be cleaned frequently. If dirt is allowed to accumulate on reflecting surfaces and lamps, illumination may be reduced 30 to 50% in a short time. For maximum efficiency, reflectors must be thoroughly cleaned with soap and water. When concentrating high bay reflectors are used, dirt not only reduces total light output but also alters the light distribution.

When lamps fail they should be replaced immediately with the proper size and type. In large plants, the most effective method is to have a relamping-crew patrol the plant regularly. When fluorescent units are used, the lamp fails when the emission material on the electrodes is used up. The lamp will flash on and off and must be replaced to protect the starter and ballast.

Most efficient lighting with filament lamps is obtained when the luminaries are operated at the rated voltage marked on the bulb. Socket voltage below the rated value will reduce light output in the ratio of about 3% for every 1% in reduced voltage. A high voltage will increase light output and lumens per watt, but will adversely affect the life.

The voltage rating of a fluorescent luminaire is marked on the luminaire name plate and ballast, and should be kept at the center of the specified range. Both high and low voltages reduce fluorescent lamp life and many cause starting difficulties and arc instability.

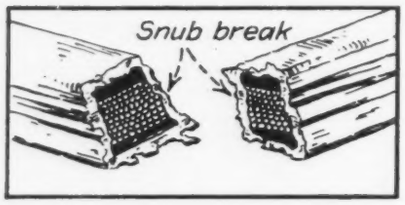
(*Continued bottom of page* 102)

Westinghouse Electric & Mfg. Co.

Immediate replacement of fluorescent tubes that are burned out or beyond normal operating life insures economical and efficient operation.

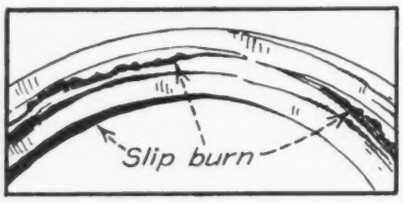
REASONS FOR V-BELT MORTALITY

Preventive maintenance must prevent destruction, and such is the purpose of a booklet entitled "Plain Facts on Wartime Care of Rubber V-Belts," published by Allis-Chalmers Mfg. Co. Seven causes of injury to V-belts which reduce their life and service are illustrated below, along with preventative measures that should be taken to eliminate many of the conditions that develop through improper adjustment and care of V-belts.



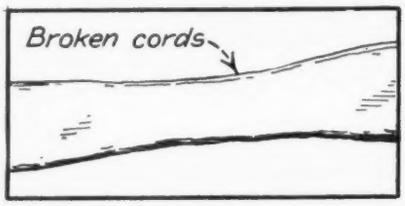
Cause—Two signs show this broken V-belt to be the victim of crack-the-whip: (1) cover wear indicates considerable slip; (2) the fairly clean break suggests a sudden snap. Evidently the belt was slipping, suddenly grabbed.

Prevention—Keeping V-belts properly taut should be a regular, routine procedure. Test for excessive slack. Or test for slip by comparing speed ratio of sheaves between no load and full load. Allowable variation: .5%.



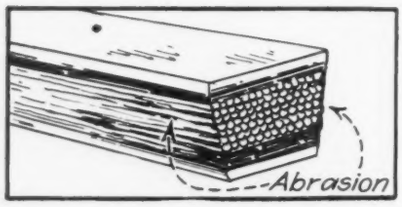
Cause—Split along pitch line indicates V-belt was run over too-small sheave. Excessive bending produced excessive internal friction, baking the life out of the rubber binder which holds the pulling cords together.

Prevention—With every V-belt size goes a minimum sheave diameter. Any saving in sheave cost by ignoring manufacturers' recommendations is more than paid for in more frequent V-belt replacements.



Cause—Inner cords were broken when the belt was pried over sheave flange on installation. (Cover, being bias-cut fabric, it stretches without breaking.) Such breaks can be caused also by pieces of wood or metal in the groove.

Prevention—Never pry new belts into grooves,—nor "ring" them from one groove to the next. Motor should be loosened and moved forward. Every drive should have a take-up for proper adjustment of tension.

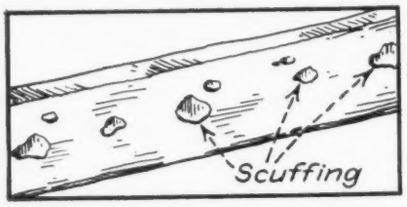


Cause—Abrasive dust wore the sidewalls, narrowing the belt width. Belt then rode on bottom of groove, slipped, lost its proper shape as well as its size.

Prevention—When V-belt drives are located in dusty surroundings, dust guards will provide important protection. Because slip contributes to abrasive action, proper tension is doubly vital in dusty places.

Cause—V-belt drive threading machine which employed cutting oil. After only one year of operation, oil had rendered the rubber soft and lifeless—no longer of support to cord and fabric.

Prevention—Splash guards will provide some protection against oils or greases, but where considerable oil reaches V-belts, special oil-resisting V-belts of synthetic rubber may be the answer.



Cause—Bolts protruding inside the guard did the damage here. Such scuffing can exert enough "braking" of the cover to cause a sudden snap, which happened to this belt.

Prevention—When placing guards or steel-work near drives, some stretch and sag should be anticipated. Leave enough clearance so V-belts can sag a bit without disastrous results.

Therefore, it is important to make periodic voltage checks to insure continued maximum lamp operating efficiency.

Visible Record System

New types of filing units constructed of materials not on the priorities list have been developed by Visible Index Corp., 630 Fifth Ave., New York, for use with its Visirecord system. This system which has been installed by a large number of companies, including several of the better-known textile mills, is designed to provide high efficiency in record keeping by saving time, labor, and floor space. A feature of the system is a triple visible margin on each card, which shows all pertinent factors at a glance. A horizontal visible margin visible at all times when the unit is open provides signaling possibilities to thousands of cards; a diagonal visible margin provides spaces for indexing names or other data; and a vertical visible margin provides space for ledger balances, sales analysis, inventory control, etc. Cards are available in various sizes from 3x5 in. to 14 x 24 in. or larger, and are filed vertically; marginal exposures range from ½ to 1⅘ in. The system is suitable for either machine- or hand-posted records.

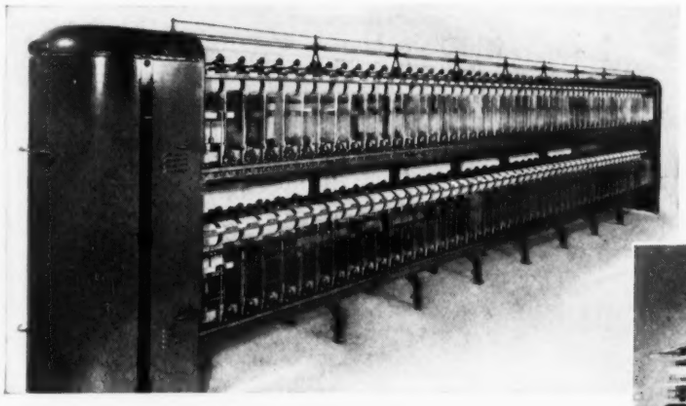
Proper Use and Care of Hand Cards

Metal shortages plus priority ratings make it involved and difficult for mills to purchase even small hand cards. Maintenance to preserve the life of present hand cards is the solution, as given in four rules listed below and appearing in the July issue of *The Howard Way*, published by Howard Bros. Mfg. Co.

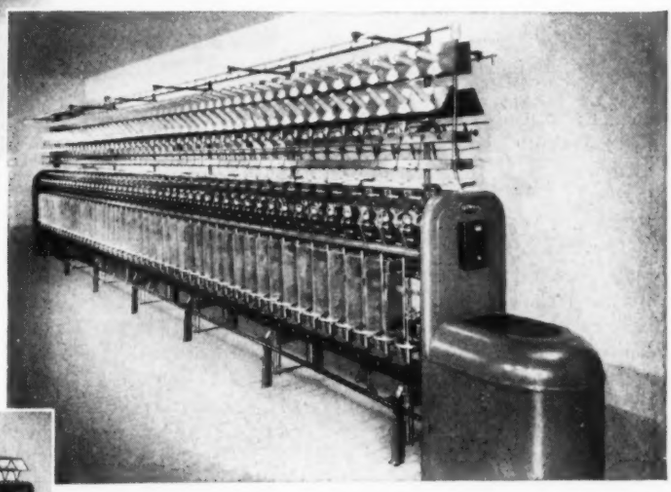
1. Store hand cards in a dry place, away from steam pipes.
2. Clean out hand cards frequently while in use.
3. Keep points keen by a light touch-

ATWOODS are AT WORK

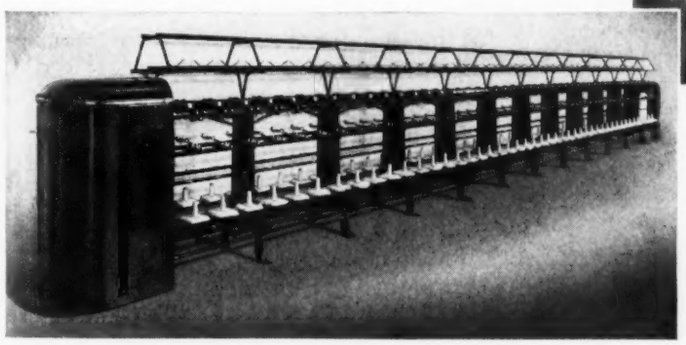
Atwood men and Atwood machine tools are working around the clock to help provide first class equipment for our armed forces. While the war lasts that will be our job. At the same time Atwood Machines like these are doing their job for America's yarn producers.



The Atwood Model 110 Up Twister is producing good, clean precision twisted yarn on all sizes of packages, bobbin or headless.



The Atwood "5B" Ring Twister is delivering doubled and twisted yarn on cones, straight packages or bobbins with twist 1.4 to 84 turns.



The Atwood Model 200 Redraw is providing maximum production of any type of yarn, any size and shape of package.

For information or assistance that will keep your Atwood Machines operating one hundred per cent, don't fail to get in touch with

THE ATWOOD MACHINE COMPANY

STONINGTON CONN., U. S. A.

SALES OFFICES: STONINGTON · CHARLOTTE · LOS ANGELES · MANCHESTER, ENGLAND · BUENOS AIRES
SAO PAULO · MEXICO CITY · MELBOURNE · SYDNEY · BOMBAY · MADRAS

up on the emery grinder once a day. For this service, hold the hand card level with both hands, and move it lightly, forth and back on a grinding roll so that all points will be honed.

4. Do not use a chopping stroke to start hand strippings. This will bend the teeth and shorten the life of the card. The points are scientifically designed and pitched for correct penetration when used with a "heel and toe," or rocking motion. The "backing off" or return stroke will clear the hand card of accumulated waste each time.

New Dyes and Chemicals

Synthetic Wax for Rayon Hoisery Yarns

Development of a new high-melting synthetic wax for treatment of rayon hosiery yarns has been announced by Morton Chemical Co., Greensboro, N. C. Known as Morpel Knitwax 60, the new product is designed to provide more efficient knitting, a smoother fabric, and better-looking hosiery. Mill experiments are said to have resulted in a marked reduction in press-offs and seconds.

The wax is soluble in ordinary petroleum solvents and is emulsifiable in water. It is readily removed from the hosiery by an alkaline scour. Morpel Knitwax 60 is being made available in a beaded form to facilitate handling in the mill. The usual method of application is to make a 5% solution of the wax in ordinary petroleum naphtha and then to apply this to the yarn, either by soaking and extracting the skeins or by running the yarn over an emulsion roll. It can be applied to the skeins or to packaged yarn before throwing or to the yarn after throwing, and the twist can be set either by steaming in the usual steam cabinet or simply by heating for 30 min. in a hot box at a temperature of about 175°F. Cones are said to retain proper condition indefinitely, as the coating is of a water-repellent nature and is not dependent upon moisture for proper conditioning of the yarn.

Acetate Dyes

The following new dyes have been announced by Bernard Color & Chemical Corp., 333 Hudson St., New York: Bernacyl Yellow 5GL and Bernacyl Yellow 7GLX conc., two new acetate colors producing clear greenish yellow shades; development with Developer BON does not alter the shades obtained, and either dye can be used in combination with Bernacyl Brilliant Blue B to obtain brilliant green shades.

New Publications

A Book for Executives

THE TECHNIQUE OF EXECUTIVE CONTROL, by Erwin H. Schell; McGraw-Hill Book Co., New York; $2.00.

As industries, one by one, convert from peace-time to war-time production programs, executives find they must convert also their psychological attitude toward their jobs and toward their subordinates. The driving force that comes from within and which makes an executive an executive must be left under the proper governing restraint to get the job done without an element of bullying. For that reason, this very excellent book on Executive Control appears as a war-production edition and is introduced at an opportune time.

Dr. Schell, whose background of M. I. T. makes him especially fitted to write a handbook of executive direction, presents his subject admirably by pointing out the "tools" needed by an executive, then by taking up case-studies of the use of these characteristics. He thoroughly explores the duties of an executive, the types of difficulties an executive must deal with, and the conduct of executives toward both subordinates and superiors. Not content with his own views on the various subjects, Dr. Schell devotes a chapter to recommendations of other books to be studied by executives whose interest has been aroused.

Of course a person in an executive capacity must be good or he would not be there, but he'll be a better one after having read this book which we recommend most highly.

Dollar Cotton

DOLLAR COTTON, by John Faulkner; Harcourt, Brace & Co., New York; $2.50.

When John Faulkner wrote "Men Working" he wrote a strong story about a familiar subject for he, too, had been employed on the WPA. But "Dollar Cotton" can in no way measure up to his previous novel. In the first place he does not seem to know the Delta nor the people of that locale. In the second place, the book is sloppily written with too many stupid errors such as calling filet mignon "good fish," and no evidence of even the sketchiest sort of research. A hill man can never know the Delta, can never write about the Delta. And Faulkner is a hill man. So he takes all the ugly facts he has ever heard, boils up a slimy mess, tacks the word Delta on it and promptly proceeds to get into difficulty so far as literature is concerned.

Faulkner's characters in "Dollar Cotton," both the white and the black, do not ring true. While the Delta has produced some richly colorful characters, some vicious ones, some hot-headed and some cold-blooded ones, these real ones are not to be found in this book. Old Man Towne and his family, even his half-breed son, are not typical of the Delta. They could be unpleasant examples of greed and lust in any section of the United States. Certainly their adventures need not be confined to the Delta.

Why Rationing?

STRATEGIC MATERIALS IN HEMISPHERE DEFENSE; Hessel, Murphy, and Hessel; Hastings House, 67 West 44th St., New York. $2.50.

One of the first acts of the German Government after September, 1939, was to confiscate all privately owned tires in the Reich. The German people found out immediately what total war means to civilians. Americans are just beginning to learn. This book gives a comprehensive picture of what materials—and how much of them—we need to wage this war; what and how much we lack; and how we are going to supply the deficiencies. The authors make no attempt to feed sugar-coated pills to the reader; neither do they try to scare him to death; their attitude is give American citizens the real facts and they can "take it." In a nutshell, the facts are: (1) Japanese victories in the Pacific

Long Range Planning has never been more Important

There is no dead-end in a business that plans ahead . . .

World events may change our course, but follow a course we definitely intend to do.

SONOCO'S main objective is to keep up its important position in the field of textile paper carriers. By so doing we are contributing toward winning the war, indirectly . . . while at the same time improving our position so as to make our direct contributions more effective.

WAR SAVINGS BONDS

EVERY PAY DAY

SONOCO MAKES *EVERYTHING* IN *PAPER CARRIERS*

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. | HARTSVILLE S. C. | MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY

have deprived us of rubber, tin, and other strategic materials; (2) all our tremendous natural wealth is not sufficient to win a decisive victory in this war unless greatly augmented by tapping new sources of supplies; (3) given whole-hearted support by Latin America, we will have few long-tern procurement problems; (4) meanwhile we must save, sacrifice, and substitute; soon there will be no luxuries, no anything except the bare essentials of living. For a clear understanding of the materials problem, this book is an essential.

How to Guard Against Sabotage

PLANT PROTECTION; E. A. Schurman, Cornell Maritime Press, 330 West 23rd St., New York. $2.

This handbook, written by the chief of protection of the Glenn L. Martin Co., provides authoritative information on the organization of a competent protection department or the transformation of a peace-time watchmen's force into an efficient war-time organization. Among the problems discussed are selection and training of personnel, organization of protection department, women guards, employee records, and physical aids to protection.

Fire Protection

THE ORGANIZATION AND TRAINING OF INDUSTRIAL FIRE BRIGADES; John C. Klinck; S. C. Toof & Co., Memphis, Tenn., $1.

This book was written expressly for use by those confronted with the problem of organizing and training private fire brigades within industrial plants. The author, who is a captain in the Memphis Fire Department, has included all the basic information needed for setting up training, and equipping industrial fire brigades. Included are sections on defense against bombs, gas, and sabotage.

Safety Man's "Bible"

HANDBOOK OF INDUSTRIAL SAFETY STANDARDS; National Conservation Bureau, 60 John St., New York; 55c paper cover; 75c leatherette cover.

The newly revised edition of this well-known handbook contains a 32-page supplement on war-time protection of industrial plants, including details on setting up an organization to protect the plant and its employees against sabotage and air raids. The publication is designed to give management, foremen, supervisors, and key employees a practical, workable guide to the detection and elimination of hazards and unsafe practices.

Fiber Photomicrographs

TEXTILE FIBER ATLAS; Werner Von Bergen and Walter Krauss; American Wool Handbook Co., 303 Fifth Ave., New York. $3.

This collection of 311 photomicrographs of natural and synthetic fibers, together with 38 pages of explanatory text, will be welcomed by technicians interested in textiles from the viewpoint of fiber identification. Illustrations include longitudinal and cross-sectional views of perfect, imperfect, and damaged fibers.

Fabric Reweaving

THE ART OF REWEAVING; William S. Hieber, National Reweaving Institute, Atlanta, Ga. $25.

In recent years a new art has been developed—the art of repairing holes and tears in garments by reweaving. Until the appearance of this book, the literature on the art of reweaving was meager. Based on more than twelve years of experience and experimentation in the art, Mr. Hieber's book provides clear and explicit instructions for repairing both woven and knitted materials. Although it was prepared primarily as a text book for members of the National Reweaving Institute, it contains a wealth of information which should be applicable in textile mills producing high-cost products including woolen and worsted apparel fabrics; carpets, rugs, and upholstery fabrics; and hosiery and other knit goods. After explaining the basic principles of reweaving, the author discusses in detail the reweaving of such fabrics as basket weaves, twills, herringbones, sharkskins, overplaids, and pile fabrics. Other sections are devoted to mending runs and other holes in knit goods and to proper use of the special needles and other instruments employed.

Good Fairies and Bad Ogres

THE DYNAMICS OF INDUSTRIAL DEMOCRACY, by Clinton S. Golden and Harold J. Ruttenberg, Harper & Brothers; $3.00

Once upon a time there were some children who believed in good fairies and terrible, bad ogres, and when these children grew up they read other fairy stories along the same lines. One of these could be The Dynamics of Industrial Democracy. In it the authors have painted all management personnel from the president down to the lowliest overseers as Big Bad Ogres, at the sound of whose voices all employees quake in their boots for they have never received fair play from those folks. But looking after the employees' welfare are union organizers who are Good Fairies, and just the faintest wave of their magic wands makes everything perfect for the mill and mine workers. Immediately the union-wand's magic gives them great powers, and they tell management how to manage better; and they all have lots of authority, and feel very big and proud because when the wand waves, they can tell management to go to hell.

We are sure Messrs. Golden and Ruttenberg did not intend their book to be so classified, but it is far too partisan to be considered authoritative by intelligent readers, for after all there are two sides to all questions, even industrial democracy. But if I were a union organizer and wanted to set the record on attaining membership, I'd adopt the book as bible, and preach from it. It offers spiritual and physical salvation to all who adopt the C.I.O.

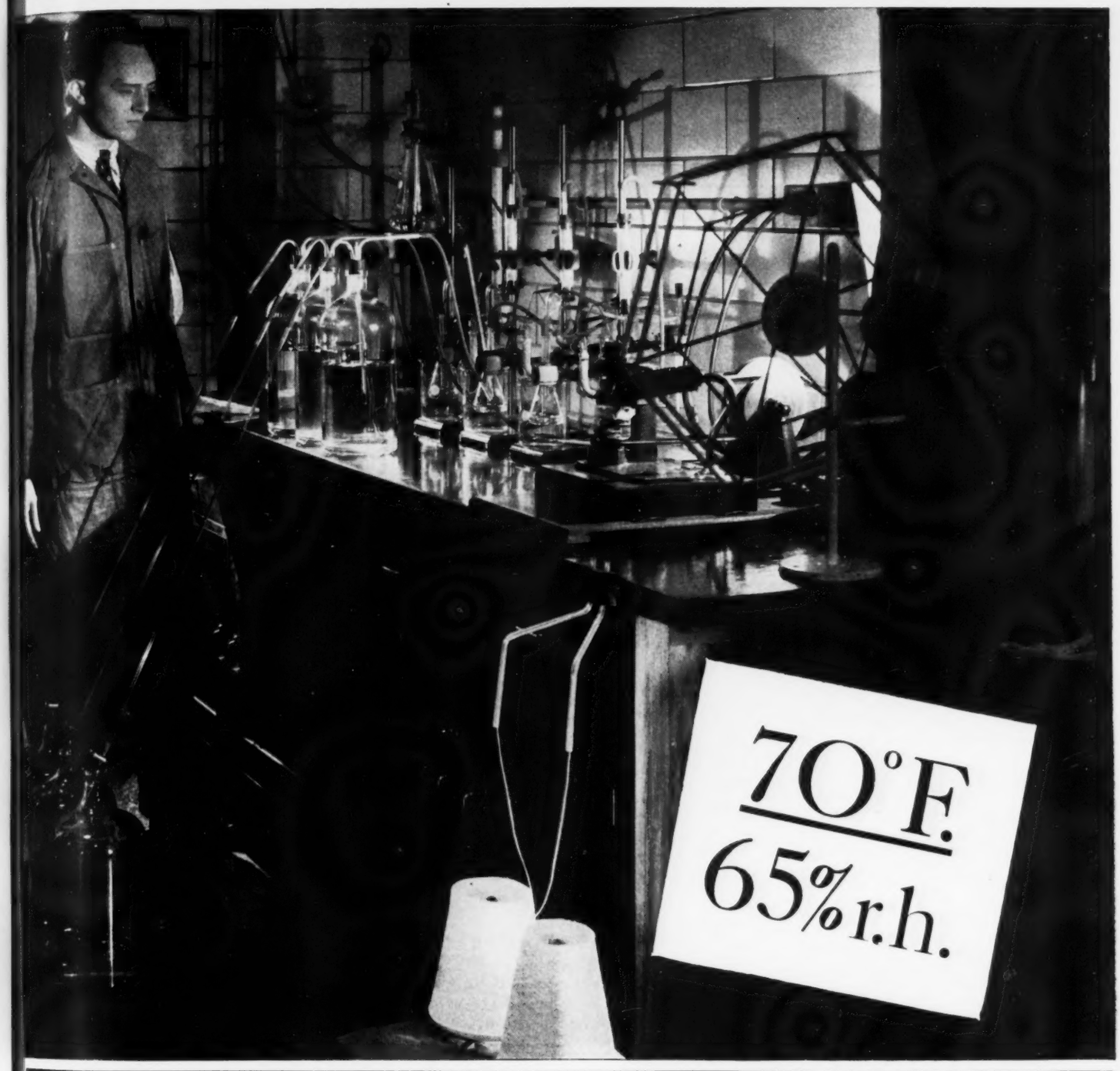
It is well for those in the unorganized textile industry to read this book. At least they will know what their employees will be told when the unions start coming in.

Lowell, Mass., 100 Years Ago

MILL AND MANSION; John Coolidge, Columbia University Press, Morningside Heights, New York. $3.75.

This study of the architecture and society in Lowell, Mass., during the period 1820 to 1865 traces the development of one of America's most comprehensive attempts at city planning, including low-cost housing. Lowell was conceived as a textile manufacturing town; and when Kirk Booth started the settlement, his first problem was to fix the location of the Merrimack Mfg. Co. and the other plants which were to follow. His next consideration was the location of the housing. Accordingly, the banks of the river and the newly built canal were reserved for the mills; the land behind the mills was allotted to housing for the mill employees. Five units of "functionalized" design made up the plant of the Merrimack Mfg. Co. Close by were the mill houses—well constructed, advertising in unmistakable terms the benevolence of the corporation. There was an ample square mansion for the agent; there were more modest residence for the sub-executives; double houses or "tenements" for the skilled employees, boarding houses for the farm girls who had come to work in the mill.

The mill houses at Lowell embodied those qualities which are the ideal of every designer of low-cost housing today and offer clues to the solution of the country's housing problem.



EVALUATION LABORATORY — The photograph shows one corner of the Rohm & Haas Textile Evaluation Laboratory where new products are tested, fabric treatments evaluated, and new testing methods developed. In the background is a control board which automatically maintains in the laboratory a constant temperature of 70°F. and a relative humidity of 65%. The highlighted laboratory equipment was designed by the Evaluation Laboratory to determine and evaluate the hygroscopic properties of new resins and sizes. An accurately measured volume of saturated air is passed over the dried samples to determine the moisture pick-up. Other equipment in the photograph includes an abrasion tester, a skein winder, and equipment for the Draves Test.

DON'T GIVE UP UNTIL WE DO! Effective research requires ingenuity! Standard laboratory procedures are not always available and when such is the case, the resourcefulness of the technician determines the effectiveness of the evaluation.

Whenever there is a standard device for testing specific properties, such a machine will almost always be available in the Rohm & Haas Laboratories. In cases when no standard testing device is available, Rohm & Haas research men have developed devices for accomplishing the desired result.

TRITONS—*Synthetic detergents, emulsifying, wetting, and dispersing agents.*

RHOTEXES—*Synthetic gums for sizing and thickening.*

DEGOMMAS—*Concentrated diastatic and proteolytic enzymes for desizing.*

RHOPLEXES—*Aqueous resin dispersions for finishing and coating fabrics.*

RHONITES—*Modified urea formaldehyde resins for textile finishing.*

PROTOLIN—*Stripping agent for wool stock and piece goods.*

FORMOPON—*Reducing and stripping agent in acid systems.*

LYKOPON—*Reducing and stripping agent in basic systems.*

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA, PA.

Manufacturers of Leather and Textile Specialties and Finishes . . Enzymes . . Crystal-Clear Acrylic Plastics . . Synthetic Insecticides . . Fungicides . . and other Industrial Chemicals

News of Suppliers

Burkart-Schier Chemical Co., Chattanooga, Tenn., has added Byrd Miller, of Greenville, S. C., to its sales organization. He will distribute the company's wet processing agents from offices in the Woodside Building, Greenville, S. C.

Pennsylvania Salt Mfg. Co., Philadelphia, Pa., has appointed R. L. Cain to its general sales department. Mr. Cain for the last year has been priority specialist for Westvaco Chlorine Products Corp.

Impregnole Corp., New York, has added Gordon MacDougall to its staff as representative for the New York office. Mr. MacDougall has for several years been New York State representative for Talon, Inc.

Morton Chemical Co. has added Milton R. Radcliffe to its laboratory staff to expedite the company's expanding chemical research program. Mr. Radcliffe will devote his entire attention to organic research work. He was associated with Du Pont for some years and has recently been chief chemist for Roalin Corp., Easton, Pa.

Carrier Corp., Syracuse, N. Y., has appointed Harold L. Rowland to its administrative staff. He is resigning as president and director of George F. Getty, Inc.; vice-president, treasurer and director of Pacific Western Oil Corp., vice-president of the Mission Corp., and president and managing director of the Hotel Pierre, New York. Carrier reports booking business in July totaling $5,312,000, which was the largest monthly figure in its history. Orders were practically 100% war business.

Minneapolis-Honeywell Regulator Co., Minneapolis, has transferred Davis Douglas of the Brown Instrument Co., Textile Division, Atlanta, Ga., to be Southeastern Division manager of the Aeronautical Department of Minneapolis-Honeywell with headquarters at St. Petersburg, Fla.

F. C. Abbott, investments, specializing on southern mill stocks, with office at Charlotte, N. C., has sold his business to Kirchafer & Arnold, Inc., New York, who will maintain a Charlotte branch office in the Johnston Bldg. with C. Stradley Kipp, vice-president, and Mrs. Maud S. Haywood, who has been with F. C. Abbott for 31 years, as associate managers.

Draper & Co., Inc., have removed their offices and sample rooms from 421 Summer Street to 540 Atlantic Avenue, Boston, Mass., as their former location has been occupied by the U. S. Army.

General Electric Co., Schenectady, N. Y., has appointed Gerard Swope, honorary president, to resume his duties as president of the company succeeding Charles E. Wilson who resigned to become vice-chairman of the War Production Board, Washington, and chairman of the newly-organized Production Executive Committee, of WPB. Philip D. Reed formerly G. E. chairman, is also in the service of the Government, and honorary chairman Owen D. Young was also named to resume his previous responsibility as chairman of the board.

Packaging Institute, Inc., will hold its annual convention on Nov. 5 and 6, 1942, at the Hotel New Yorker, New York. Packaging in Wartime will be the subject of the program discussions. Joel Y. Lund, vice-president of Lambert Pharmacal Co., St. Louis, is president of the Institute.

International Business Machines Corp., Endicott, N. Y., on Sept. 19 dedicated the second new war munitions plant which it has created within a year. The day was declared War Rally Day by the city of Endicott.

B. F. Goodrich Co., Akron, Ohio, Industrial Products Sales Division, reports that L. H. Chenoweth, manager of manufacturers' sales, has resumed his duties after serving with the War Production Board in Washington. W. E. Williams has been appointed chief clerk of the Akron district office and Bert Schell to the belting sales department. R. E. Lewis, sales correspondent in the Akron offices, has entered the U. S. Navy as a chief petty officer in the physical training program headed by Gene Tunney; and R. Burge, sales correspondent, New York district, is now in officers' training camp.

National Forge & Ordnance Co., Irvine, Pa. is expediting the planning of its precision war work by the installation of 24 Carrier Weathermakers to overcome heat and humidity conditions in its offices. Seventeen Carrier Weathermakers were installed last summer, and

"JUNK RAINS HELL ON AXIS: YOU who read this can help end the war sooner, and save lives of American boys at the front. America is dangerously short of scrap iron and steel, vital ingredients for each batch of new steel." The above is part of an advertisement published in the interest of an earlier Victory by Wickwire Spencer Steel Co., New York. The ad was prepared by Fuller & Smith & Ross.

BIRTHPLACE OF 50-YEAR-OLD FIRM

TEXTILE MACHINE WORKS, Reading, Pa., was established in the modest little shop shown above on July 5, 1892. It was originally the firm of Thun & Janssen. The organization which now covers many acres of land and employs thousands of employees is celebrating its fiftieth anniversary this year as noted in this department last month.

Not necessarily, soldier. When mother used to knit them, she may not have used mercerized yarn. • Dixie durene, soft to the touch, and lustrous to the eye, is an outstanding example of growing popularity of cotton for wearing apparel. Makes a girl look smart—makes a soldier look.

Dixie MERCERIZING CO., Chattanooga, Tenn.

Dixie Durene . . . A Product ot Controlled Manufacture

AMERICAN COTTON MADE IN U·S·A

ROBERT E. MASON, who has been appointed by the Mixing Equipment Co., Rochester, N. Y., to represent the company in North and South Carolina. Mr. Mason, whose headquarters is in Charlotte, N. C., will handle "Lightnin" propeller and turbine type mixers.

now every office room at National Forge is so equipped. The sales, engineering, stenographic, and accounting rooms have multiple installations.

Wickwire Spencer Steel Co., New York, N. Y., reports that production of its furnaces during the first seven months of the year increased 78% as compared with corresponding period of 1941. Larger production was reported also for the company's open-hearth furnaces, as well as of both the bloom and rod mills.

B. F. Goodrich Co., Akron, Ohio, has named J. T. Callahan, as western district manager of the company's national sales and service division with headquarters in Chicago, Ill. The new sales official succeeds Walter W. Thomen, western district manager since 1939, who has been called to active duty as a major in the office of the Chief of Ordnance, War Department.

Roller-Smith Co., Bethlehem, Pa., has appointed Roy M. Smith as assistant chief engineer. Mr. Smith comes from the Bryant Electric Co., where he was engineering manager for the Wiring Device Division.

Fostoria (Ohio) Pressed Steel Corp. has named Willard S. Crandall as director of engineering. He succeeds Lieut. Ray N. Green, who entered the armed forces last fall. Until his recent return to the home office, Mr. Crandall had been manager of Fostoria's Western Division.

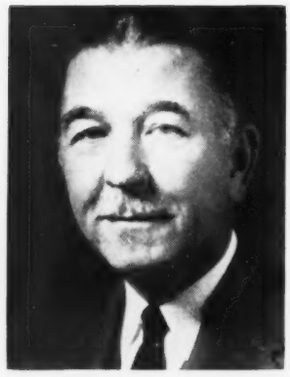
Sylvania Electric Products, Inc., (formerly Hygrade Sylvania Corp.) on Sept. 1 made substantial price reductions in both incandescent and fluorescent lamps. The 40, 50 and 60-watt incandescent lamps, previously costing the consumer 13¢, have been reduced to 10¢. The entire line of fluorescent lamps has been reduced an average of 15%.

Cochrane Corp., Philadelphia, Pa., has appointed the Energy Control Co. as flow-meter representative for eastern-Pennsylvania, southern New Jersey, New York City and vicinity, Delaware, and Maryland. Energy Control Co. will also handle Hays combustion control and instruments and the Heacon damper. Energy Control Co. is headed by J. T. Vollbrecht.

Wheelco Instruments Co., Chicago, has made the following appointments: C. L. Clark, of Westinghouse Electric & Mfg. Co., to Wheelco's Cleveland office as sales engineer; Robert N. Miller, of Mercoid Corp. as service engineer with the Wheelco Cleveland office; Howard B. Jones, formerly with McGraw-Hill Publishing Co., to Chicago as sales and service engineer.

FRANCIS BOYER, elected a director of Pennsylvania Salt Mfg. Co., Philadelphia, succeeding the late S. D. Warriner.

WILLARD S. CRANDALL, new director of engineering, Fostoria Pressed Steel Corp.



W. I. GALLIHER, director of sales of the Columbia Chemical Division, of Pittsburgh (Pa.) Plate Glass Co., who will be in charge of sales activities from the headquarters recently moved to Pittsburgh from New York.

International Business Machines Corp., Endicott, N. Y., has appointed Dwayne Orton, formerly president of Stockton (Calif.) Junior College, to be director of education. The company maintains a modern schoolhouse in which classes are conducted daily from 5 a.m. to 3:30 a.m., the building being closed only 1½ hr. out of the 24. The company's educational program has been accelerated due to the present training of employees in connection with the war effort.

Worthington Pump & Machinery Corp., Harrison, N. J., has appointed R. J. Laidlaw to the position of manager of its Cleveland district office. He will succeed A. J. Klug who will now devote his entire time to special work with certain important industries in the Cleveland district.

Atlantic Rayon Corp., Providence, R. I., has recently issued a booklet describing its plan of subcontracting synthetic textiles. The booklet discusses the way in which Atlantic Rayon acts as a prime contractor for products made from rayon and synthetic yarns and sublets contracts to other companies.

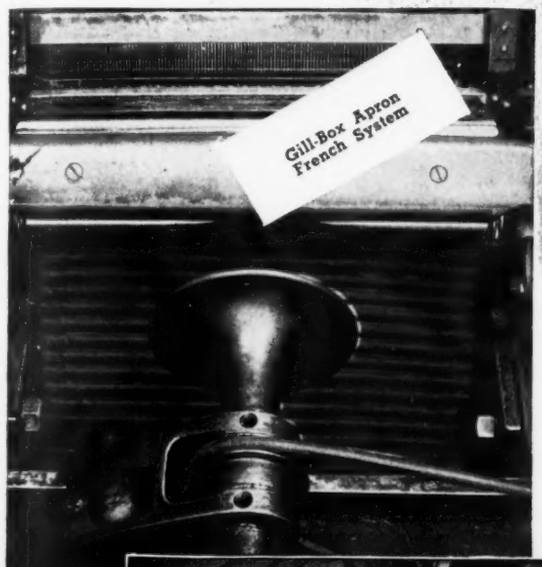
International Nickel Co., New York. —James F. McNamara, mill products sales manager of that company, has been made chairman of the board of directors of Harvill Aircraft Diecasting Corp.

John A. Cairns & Co., New York, has added H. Curtis Colby to its staff. Mr. Colby was at one time sales promotion manager of the old firm of M. C. D. Borden & Sons and lately was vice-president of the Fran Presbrey Co.

Miller Co., Meriden, Conn., has elected S. R. Naysmith, manager of engineering and merchandise development, to the office of vice-president in charge of engineering of the company.

Remember WOOL AND LEATHER ARE TWINS

WHEN IT COMES TO SELECTING THE RIGHT TEXTILE LEATHER FOR FRENCH COMB & GILL BOX APRONS



They are twins insofar as the basic problems involved in their manufacture are concerned. Both come from animals and therefore both are subject to those variations caused by the particular breed of the animal, the character of the land where he roamed, and even the amount of food he found to eat. These variables mean that both raw wool and raw leather must be selected by experts.

You can rely on BARNES, the TEXTILE leather house of long experience, to buy the right leather for use in your mill. Indeed, we buy only the finest Foreign and Premium Domestic Steer Hides. For aprons, we pay a cent or two extra to obtain hides free of grubs, barbed-wire scratches, slaughter cuts, and other imperfections which would pull up the wool. We insist on hides taken from steers killed in the best months of the year, avoiding in particular the manure burns of the winter months. And in these hides we carefully select and cut the correct part for the particular needs of your combs and gill boxes. As in the case of wool, the selection and purchase of the right raw materials is only half of the story. The correct processing is the other half. In our own tannery we apply the particular tanning which our research and years of experience have proved provides long life and good service with maximum economy.

Even thickness throughout, Minimum stretch, Run straight.

Strong, flexible waterproof lap of even thickness overall.

HENRY K. BARNES COMPANY • SALEM, MASSACHUSETTS

BARNES THE *Textile Leather* HOUSE

SINCE 1876

Where unusual knowledge of Leather is combined with long years of Textile experience

APRONS—BELTING • FLAT • ROUND • & ACCESSORIES—STRAPPING

FREE FOR THE ASKING

Readers interested in literature reviewed on this page may secure copies by writing to Textile World, 330 West 42nd St., New York, giving their company connection, title of item desired, and date of issue in which it was reviewed.

Lubrication of textile machinery is covered in a 24-page booklet issued by H & B American Machine Co. Service charts for H & B machines giving lubrication schedules for various types of bearings on self-feeding openers, Buckley openers, hopper bale openers, vertical openers, breaker lappers, intermediate and finisher lappers, condensers, revolving flat cards, coilers, drawing frames, speeders and roving frames, spinning frames and twisting frames. In addition, numerous suggestions are contained concerning methods of servicing bearings, comb boxes, open gears, etc. The care of spindles is treated, and information concerning the various types of lubricants is covered in this booklet.

Temperature schedules for a 7 cylinder sizer is one of a number of interesting items contained in an article entitled "Rayon Warp Sizing," appearing in the *Rayon Warp Sizing Specialist* for September. This article is one of a series dealing with English practice in sizing rayon yarns.

Standards of illumination recommending a minimum of operating foot-candles for use in the various operations of cotton manufacturing, silk and rayon manufacturing, and woolen manufacturing, are contained in table form in a booklet entitled "Fluorescent Lighting Fixtures" issued by Sylvania Electric Products, Inc.

Humidifying and cooling by evaporation and air circulation is described in a bulletin issued by the Carrier Corp.

Research, as conducted by Draper Corp., and the part that it is playing toward national defense and the benefit of textile mills, is described in the September issue of *Cotton Chats*.

Accurate control of the feed of chemicals into a water treating plant in proportion to the volume of water, is possible through a new device described in bulletin 310, issued by Graver Tank & Mfg. Co.

Data sheet intended to assure accurate selection of the proper size and type of mixer and avoid considerable time and waste material occurring from trial-and-error methods, is offered by Mixing Equipment Co.

Electric hoists, ratchet lever hoists, spur geared chain hoists, differential chain hoists, I-beam trolleys, load binders and utility maintenance tools are described in Catalog G-6 offered by Coffing Hoist Co.

A control instrument for application where process lag is considerable is described, both in theory and in performance, in bulletin A-330, issued by Foxboro Co.

Thermometers of the fully-compensated liquid-filled recording type for temperatures between −125° F. and +400° F. are described in detail and their applications discussed in bulletin No. T302, issued by the Bristol Co.

Reducing losses in the processing and scouring of wool, speeding slashing and obtaining proper penetration in fiber lubrication, is discussed in "Helping Industry Help America," prepared by Sun Oil Co.

Conveyor pulleys of the solid and split type are described in an illustrated bulletin CP-42, issued by the American Pulley Co., and containing detailed specifications covering these pulleys.

Cleaning industrial equipment about mills such as removing scale from boilers, deposits that formed in the water jackets and cooling systems of diesel and gasoline engines, and hard water deposits left in heat exchange equipment, is discussed in the 23-page booklet issued by Oakite Products, Inc., titled, "Oakite Compound No. 32."

Ballasts for single, two-lamp and three-lamp units of fluorescent lights along with complete specifications and wiring diagrams are included in bulletin 421-FL, issued by Jefferson Electric Co.

Acid-resistant centrifugal pumps encased with heavy chemical stoneware instead of hard rubber as a defense measure, are described in bulletin 702 prepared by United States Stoneware Co.

Handling of liquids is discussed in "Industrial Equipment Catalog" prepared by S. F. Bowser & Co. Items such as lubrication equipment, metering equipment, pumping equipment, refueling systems, storage and dispensing equipment, etc., are discussed in this catalog.

Lift trucks, useful about warehouses in piling bales, are described in two leaflets issued by Lewis-Shepard Sales Corp., one covering the gas model and the other the electric model.

Textile executives will be interested in that section of *Metco News* July-August issue, dealing with metallizing of card feed rolls, spindles, and copper squeeze rolls. Metallizing of mill machinery has added many years of service to its useful life. Also contained in this issue is the announcement of a contest whereby users of metallizing may speed victory and win war bonds.

Hydraulic model lift trucks manually operated are described in a folder published by Revolvator Co., entitled "Red Giant Liftrucks."

Chapman static neutralizer parts are illustrated along with folio numbers given in bulletin No. 63 issued by Chapman Electric Neutralizer Co. to assist mill men in ordering replacement parts.

Surface active agents, metal fasteners for leather belts and the correctly sized rayon yarn are a number of items discussed in the August issue of *The Houghton Line*, published by E. F. Houghton & Co.

Engineers will be interested in a 16-page booklet prepared by the International Nickel Co. entitled "Heat Transfer Through Metallic Walls." Included in this booklet is information and formulas for determining overall heat transfer rates, various factors influencing heat transfer through metallic walls, and the thermal conductivities of metals and alloys commonly used in construction of process equipment.

Leather belting for V-type drives is discussed in a leaflet offered by Victor R. Clark Belting Co. It is stated that these belts may be used to replace rubber in V-drives and are waterproof, oil resistant and long lived.

Fight waste, is the theme of a 14-page bulletin just issued by Air Reduction Sales Co. The booklet entitled "Help Win the War—Save Materials" consists of a series of shop posters designd to help arc welding operators do more useful work with every electrode.

Grilles, registers, and air diffuser outlets are discussed in Catalog F-1415-4 which has been issued by Barber-Colman Co. Features of these various pieces of equipment are described.

Load-center distribution systems, specifications and standard arrangements are discussed in Bulletin GED-1006, issued by General Electric Co., as a means of providing savings in time and material in the layout and construction of plants. Five important steps are enumerated which make possible the savings of one to six months over the time usually required.

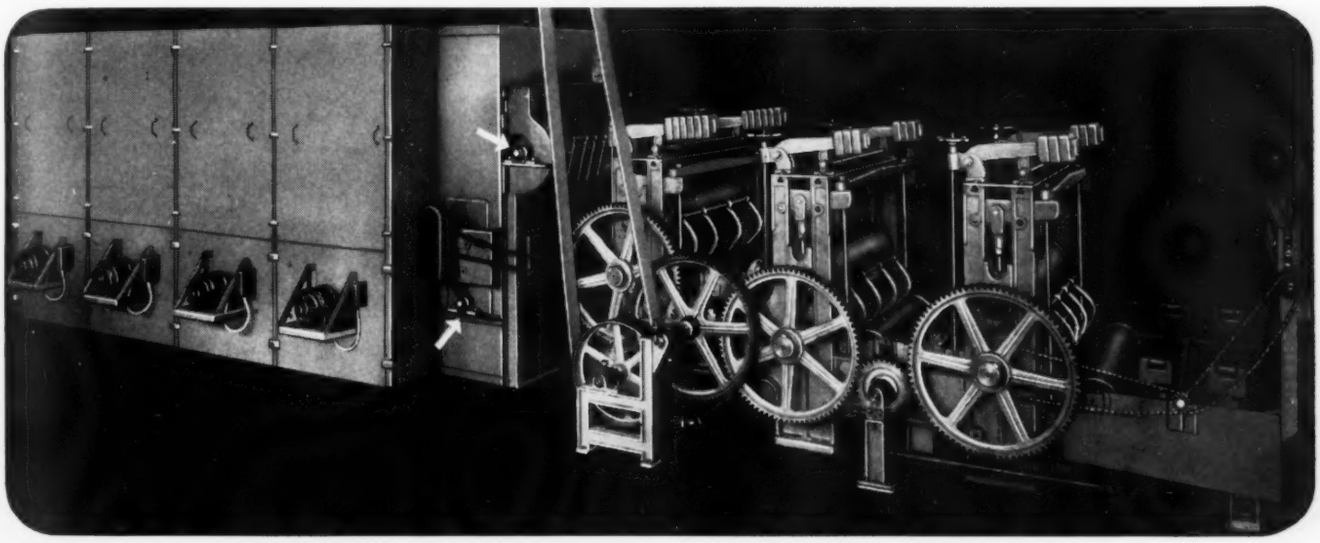
Rub aprons of Neoprene are discussed in an article in the July-August issue of *Neoprene Notebook*, published by Rubber Chemical Div., E. I. du Pont de Nemours & Co. Advantages of Neoprene rubber rub aprons and their ability to speed production of woolens are covered.

Textile Laboratory instruments such as microscopes, lamps, photographic equipment, etc. are discussed in a leaflet issued by Bausch & Lomb Optical Co., titled, "Optical Instruments for Textile Industries."

Fabrication of stainless steel is covered in a 40-page booklet prepared by Republic Steel Corp. Of special interest are tables regarding the properties of stainless and heat-resistant steels and tables of comparative physical and mechanical properties of ferrous and non-ferrous metals. Hardness conversion tables and sheet metal gage tables are included.

Important chemicals to the cotton industry, woolen industry and silk and rayon industry are discussed in an interesting manner in a booklet published by Commonwealth Color & Chemical Co., entitled, "The Story of Commonwealth." This booklet covers the consultation, research and manufacture of chemical specialties.

PRODUCTION DOUBLED!

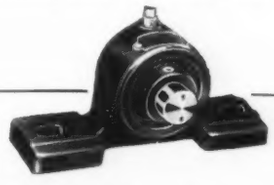


. . . FAFNIR Ball Bearings supply essential friction-freedom in extra capacity SARGENT BACK WASHERS AND DRYERS!

Fafnir Ball Bearings – liberally used – figure prominently among the many features of the redesigned Sargent Back Washers and Dryers which permit *doubling* the number of ends ordinarily run through the machine. You'll find them at almost every point of motion – in the washing and drying chamber on conveyor shafts – on the feed and press roll shafts – and wherever freedom from drag and friction is required for efficient, steady machine output.

The wide variety of Fafnir Ball Bearings – especially adaptable to all types of textile machinery – made it possible for the designers of the Sargent Back Washers and Dryers to meet every requirement of good engineering that will result in user satisfaction. Sargent has an 85-year old reputation for building outstanding textile machinery.

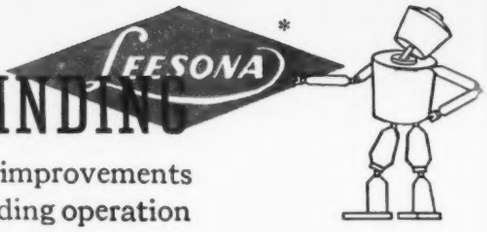
With machinery makers, mill operating and maintenance men, you'll find that Fafnirs are selected time and time again for greater economy and efficiency in both new machines and changeovers. Fafnirs Balanced Design – larger balls and deeper races – mean greater load capacity and longer bearing life. For almost every turning point on every piece of textile machinery, there is a Fafnir Ball Bearing Unit that will save power and cut maintenance time and costs. The Fafnir Bearing Company, New Britain, Conn. Branch Offices: Atlanta, Birmingham, Boston, Charlotte, Dallas.



FAFNIR
BALL BEARINGS

THIS IS NO. 35 OF A SERIES ON

GETTING THE MOST FROM WINDING



Information about winding designed to show improvements in winding equipment and new ideas in the winding operation

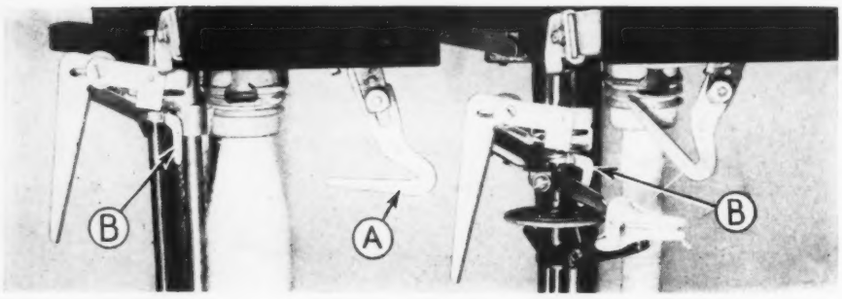


Fig. 1

SETTING THE BUNCH BUILDER (No. 90 Winder)

The percentage of waste yarn remaining on a loom bobbin can be held to a minimum by carefully controlling the yardage in the Bunch through accurate setting of the Bunch Builder.

Bunch Builders on all spindles can be set alike by means of a ratchet. Each stroke of the Traverse Bar moves the ratchet wheel one notch and at the end of a predetermined number of strokes, the Bunch Builder Guide (A) is released, permitting the Thread Guide to traverse the yarn the full stroke. Each bobbin thus contains a Bunch that has the proper yardage for the width of the cloth.

Positioning the Bunch on the bobbin is accomplished through selection and adjustment of the Bunch Builder Guide. However, in the case of the fixed-position type (top of each column in Fig. 2), the location of the Bunch can be changed only by altering the position of the bobbin on the spindle.

Some mills prefer to leave the Bunch exposed, others to have it covered by the full traverse of yarn. When the Bunch is to be exposed, a collar on the Traverse Bar will prevent the Thread Guide from returning all the way to the bobbin butt. It may also be necessary to change the setting of the Cop Former.

When the Bunch is to be covered, it can not be located close to the bobbin butt. The yarn traverse at the start is shortened because the Porcelain Thread Guide is raised by the Thread Guide Holder Rest (B) to prevent it from striking the Bunch Builder Guide or the metal rings on the bobbin. The Traverse Wheel must not strike the bobbin butt so the winding point at the back is fixed.

TYPES OF BUNCH BUILDER GUIDES

90-1449-30. A fixed position guide. The yarn is under control on one side only, so there is a slight tendency for the yarn to oscillate and build a wide bunch. For yarns wound with heavy tension, an extra spring may be added to help release the Guide and prevent the yarn from catching on the hooked end.

90-1449-1. A fixed position guide. The yarn is under control on both the forward and return strokes of the Thread Guide. This very special Guide is used for bobbins with a groove in the base where the Bunch must be laid.

90-1449-63. A special "automatic-threading" type used with yarn supply located above the spindle. This Guide is up high and away from the bobbin; after the Bunch has been built, the yarn will automatically pass into the Porcelain Thread Guide upon its release from the Bunch Builder Guide.

90-1449-41. A flat guide with straight adjusting slot. This has been replaced in general use by 90-1449-41-4.

90-1449-41-4. This is the same as 90-1449-41 except that the tip end is bent down slightly to avoid striking the Porcelain Thread Guide. Length of the tail is 1.40", so it cannot be used when spindle is running in reverse direction.

90-1449-41-5. This is the same shape as 90-1449-41-4 except that it is bent to bring the delivery point of yarn closer to the bobbin. It is used for paper cops or small diameter bobbins. Length of the tail is also 1.40", which limits the use to winding in the regular direction.

90-1449-108. The curved slot permits changing the angle of yarn delivery in relation to the bobbin, thus making it possible to vary the width of the Bunch. Length of tail is 1.65", so this Guide can be used for regular or reverse wind.

90-1449-109. This is the same as 90-1449-108 except for a bend which brings the delivery point closer to the winding spindle for use with paper cops and small-diameter bobbins.

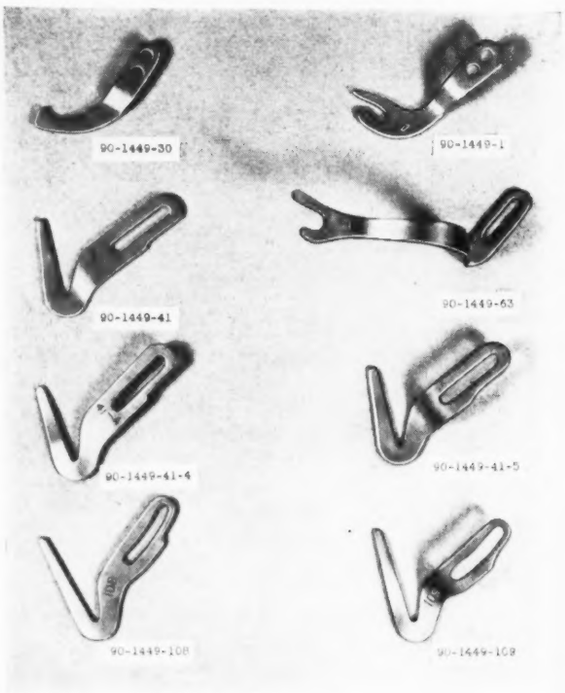


Fig. 2

See our Catalog in TEXTILE YEARBOOK

"THERE'S A UNIVERSAL WINDER FOR EVERY TEXTILE NEED"

UNIVERSAL WINDING COMPANY

PROVIDENCE BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA

*Reg. U.S. Pat. Off.

THE OVERSEERS' CORNER

THE THIRD SHIFT BUGABOO

A PETE AND BILL DISCUSSION

"Pete, I hate to admit it," Bill confided as the two pals left the mill yard together, "but I just can't get the third shift up to where it must go on production. There is just no discipline, and the jobs are in a mess every morning. New fixers, new second hands, and new operators are a poor combination. I just don't know what to do."

"I have been watching your set-up," Pete returned thoughtfully, "and I'd like to suggest you put some of your best second hands and foremen on the third shift and let them get things going. You can also scatter in a few good operators as teachers."

"That'll never do, Pete. Why, my best folks won't work the third shift. They'll quit first. You can't make them do that."

"I don't want to *make* them do anything, Bill. Suppose you put it up to them as a dare. Ask them to go on the third shift to do a real job and tell them you picked them because you knew they would do the job right. Be sure they understand that they can go back to their old shift when the job is done. Another thing, think a little about promoting the employees that show they can lick a tough job."

"Pete, I hate to admit it," Bill confided.

"Poppycock! You are sure wound up," snapped Bill. "I don't think it'll do any good. I'm in favor of doing away with the third shift!"

Should experienced employees with good records and long service ever be asked to work the third shift?

Letters from Readers

A Young Man's World

"Learners From The Village"
(Pete & Bill, August, 1942)

Editor, Overseers Corner:

In the Pete and Bill discussion in August TEXTILE WORLD, I heartily agree with Pete. Any man, most assuredly, must be slipping who condemns youngsters for applying to him for a job just because he is afraid they will ask questions he is unable to answer.

There is no doubt that Bill, and other overseers as well, will have to be on their toes if they expect to hold the interest of these youngsters, for, when they fail to hold their interest or offer them chances for advancement, the youngsters will seek employment elsewhere.

Bill, like the rest of us, will have to awaken to the fact that this is a young man's world today.

R. WESLEY CARR (*W. Va.*)

A Soldier's Idea

"Salvage of Scarce Metals"
(Pete & Bill, July, 1942)

Editor, Overseers Corner:

The salvage of scarce metals so essential in the war effort should interest everyone, big, little, old or young. Then the question, "How can a mill best develop a plan to salvage vital metals?", should be considered with interest, care, and decision by every reader of the "Overseers' Corner."

Pete always seems to know what's what and carries with him an argument that can be weighed in the balance. Bill would have it appear that it's not so essential to save brass, copper, aluminum, yet these metals are extremely vital to our ultimate success in the war.

Above everything else get the Pete idea into the heads of every employee at your plant and start a drive that will insure the salvage of every bit of metal that is commonly going to waste

CONTRIBUTIONS to the letters and practical helps in "The Overseers' Corner" are paid for when published without regard to length. We use letters (not over 200 words) discussing the material on this page or any other pertinent matter whether of mechanical, managerial or just plain human interest. Those who contribute practical helps or kinks which are published (not over 500 words) will be paid additional for an appropriate sketch to illustrate their device. It is not necessary to submit finished drawings. Contributions of greater than specified length may be given consideration as articles. If these pages interest you —contribute something to them to interest others. Address Editor, Overseers' Corner, Textile World, 330 West 42nd St., New York.

around every plant in our country.

Place a box or convenient container on the premises—marked: "Every bit of waste metal—Leave Here."

ERNEST WEBB, *U. S. Army*
Ft. Leonard Wood, Mo.
8th Division Training
6th Reg. Co. L. 20th Infty.

Buying Bonds Helps Morale

"Selling War Bonds"
(Pete & Bill, June, 1942)

Editor, Overseers Corner:

"How far should employers go in trying to boost war bond pledges?" Why, yes, employers should go all the way—every step of the way and invest every available dollar in war bonds. The employee should do the same. In helping yourself, you do a really patriotic duty for your country. Your purchase of war bonds helps to win the war and makes you feel self-reliant and secure perhaps as no other investment could—since our Uncle Sam is backing you up.

The boom days may end rather abruptly, and war bonds would prove a fine investment to depend upon to relieve the situation that might be acute with most of us.

So let your slogan be, "*Purchase war bonds and purchase them 'till it hurts.*" There's no better way to invest your earnings.

EDNA WEBB (*Sergent, Ky.*)

Overseers' Practical Helps

Cleaning Grease Spots

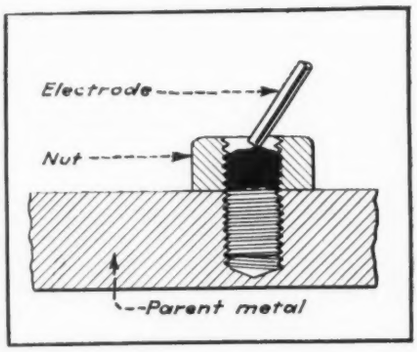
Gray yardage that is wasted due to grease spots amounts to a large figure. To remove grease, place a clean rag beneath the stain and from the upper side of the piece rub towards the center with a sponge or rag saturated with the carbon tetrachloride. Most grease and oil spots disappear after one treatment, but in severe cases clean several times.

We are manufacturing a flare cloth which must be perfectly clean. At times a weaver or a fixer soils the cloth, which if woven down past the breast beam will spread itself over the take-up drum, making more grease spots on every round of the drum. These spots are cleaned at the loom, while the spot is still in front of the breast board, and the cloth is taut. If care is taken, every trace of the spot can be washed away.

—E. W. Bloom (*Penna.*)

Removing Broken Studs

Bolts or studs that break beneath the surface in a casting or frame may be readily removed by welding, according to a release on ways to speed production issued by Westinghouse Electric & Mfg. Co. This method of removal is more accurate than drilling and prevents the breaking of drills in attempting to drill out bolts and taps broken in small holes. In addition, the threads of the hole are not stripped or marred by having a drill gouge out the threads, thus eliminating rethreading.



Method for removing broken studs

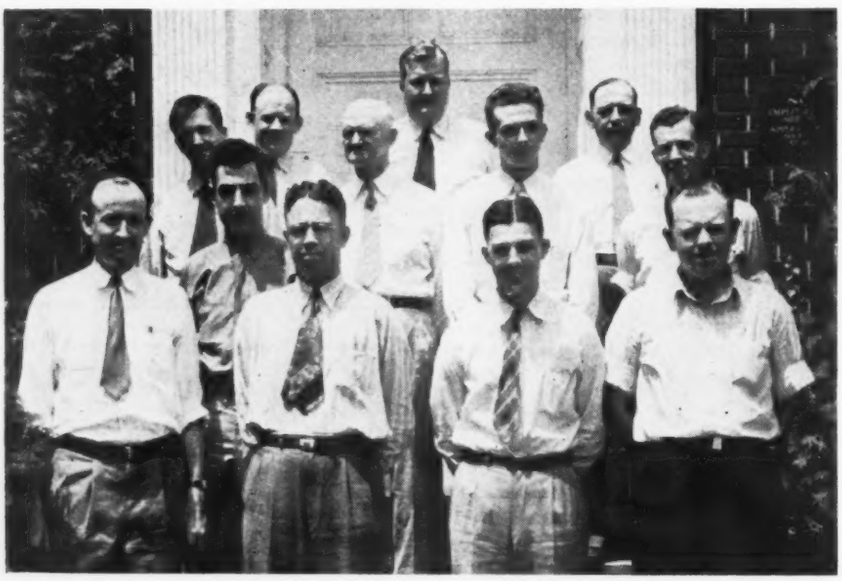
A nut the same size as the broken piece is filling with welding metal as illustrated to make a solid unit. Then, a wrench may be used to remove the stud. Flux from the welding rod prevents freezing to the casting or frame.

Tightening Loose Guides

Many forms of porcelain or glass eyes used in the processing of rayon yarns are fitted into their holders under pressure. In time, the replacing of worn guides with new will increase slightly the size of the holes, thus causing loose guides. These guides occasionally slip free and can cause yarns to chafe or ends to break when they become entangled with the loose guide. Oversize guides are the answer to this trouble, but not always the remedy, as such oversize guides may not be on hand. If they are not available a packing on the outside of the guide may be used, requiring pressure to insert the guide in the hole.

One simple form of packing is an ordinary rubber band. Usually, the band is cut to make one thickness and the guide is pressed into the hole so the band lies on the outer surface of the guide. After the guide is inserted, cut any of the rubber band projecting over the top or bottom of the bead. This method holds the guide firmly and the use of regular size guides are possible. Also the old guides can be given a quarter turn to present a new, smooth surface to the yarn, thus preventing chafing. —H.E.W. (*Penna.*)

Operating Officials of Lindale Plant



THEY RUN THE LINDALE PLANT: This is a group of officials of the Pepperell Mfg. Co's. mill at Lindale, Ga. (From the left to right) front row—Comer Turley, mechanical superintendent; Tom Hay, designer; Jim Byers, overseer of slashing; Harry Lloyd, overseer of finishing; others; Ellis Whitehead, overseer of spinning; H. T. Gilbert, overseer of weaving; B. W. Moak, cardroom overseer; J. D. Erwin, cloth room overseer; G. H. Smith, superintendent, R. O. Simmons, overseer of dye house; R. D. Harvey, agent; R. M. McCamy, assistant superintendent.

Foremen: Rate Yourselves

The chance to learn in confidence what sort of a job you are doing

EDITOR'S NOTE: The Foreman's Balance Sheet, reproduced below, is by Harrison F. Dunning and is reprinted from *Personnel*, the organ of the American Management Association. Hundreds of companies have distributed copies of this form to their supervisory staffs, and foremen conference leaders have found it a helpful device in conducting supervisory training courses. Copies may be obtained from the American Management Association, 330 West 42nd Street, New York, at the following prices: 1-99 copies, 7c each; 100-249 copies, 6c each; 250-499 copies, 5c each; 500 or more, 5c each.

Confidential

THE FOREMAN'S BALANCE SHEET

How do you rate on the fundamentals of good foremanship? Are you performing a *balanced* supervisory job? This rating sheet is a simple and effective means of appraising yourself as a supervisor. It will indicate where your performance is satisfactory and where it could readily be improved. These ratings are *strictly confidential* —no one but yourself will see the results.

INSTRUCTIONS

1. Check the item under each heading that most nearly reflects your attitude.
2. Rate yourself honestly—remember, no one else sees the results.
3. Numerical scores and space for ratings appear on back page. Total your scores and compare with the standard scores given.

CLEANLINESS, ORDERLINESS

- ☐ **A.** I like a clean and orderly department and have one when production permits.
- ☐ **B.** They pay off on my production, not my cleanliness.
- ☐ **C.** Janitors ought to clean the place up; my men are too busy producing.
- ☐ **D.** My department is clean and orderly ALL the time—and I insist it remain so.
- ☐ **E.** I clean up my department when we have a contest or campaign.

SAFETY

- ☐ **A.** I subscribe to and cooperate with safety campaigns.
- ☐ **B.** Safety is a job for the safety engineer.
- ☐ **C.** I believe I can operate without ever suffering a lost-time accident.
- ☐ **D.** Safety is all right, but production gets my first attention.
- ☐ **E.** I believe in safety, and try to keep accidents at a minimum.

QUALITY

- ☐ **A.** Quality is essential to our success, and I strive for it always.
- ☐ **B.** Quality control is largely a testing and inspection matter for experts.
- ☐ **C.** Quality efforts receive a portion of my time and attention.
- ☐ **D.** Production should not suffer for too rigid quality standards.
- ☐ **E.** I can be satisfied only by work that is of the highest quality.

COSTS

- ☐ **A.** I like to see the cost figures to learn how I made out.
- ☐ **B.** I believe in budgets, cost control and waste control. I'd be lost without cost figures.
- ☐ **C.** Waste is relative. High production offsets high waste.
- ☐ **D.** If I get out enough merchandise, the costs ought to be okay.
- ☐ **E.** Figures help fo guide me toward more efficient operations.

METHODS

- ☐ **A.** Methods are designed by experts. I follow through precisely for best results.
- ☐ **B.** Those efficiency experts have good theories, but my job is to get out the goods.
- ☐ **C.** Methods prove a good general guide for my operations.
- ☐ **D.** Methods are helpful, but we all can't operate the very same way.
- ☐ **E.** The method that gets out the most goods right now is my method.

MACHINES

- ☐ **A.** Good machines are necessary for successful operations.
- ☐ **B.** Equipment that gives high production should be replaced fairly often.
- ☐ **C.** My men are instructed to handle machines with attention and care.
- ☐ **D.** Each of my men handles his equipment as he would if he owned it personally.
- ☐ **E.** You can buy new equipment when necessary if you get out lots of goods.

MATERIALS

- ☐ **A.** We exercise care to use all materials charged to us.
- ☐ **B.** Materials are money to my company, and are treated as such by my men.
- ☐ **C.** We discard only materials that prove awkward in use.
- ☐ **D.** Materials are cheap compared to machine production hours.
- ☐ **E.** True conservation of materials is too costly to production.

POLICIES

- ☐ **A.** I believe in policy to cover all routine matters.
- ☐ **B.** I generally try to follow policies as best I can.
- ☐ **C.** Too many rules slow the whole business down. I forget many of the little ones.
- ☐ **D.** I've got a book full of rules, but who can remember all that stuff all the time?
- ☐ **E.** My company has developed sound policies for all phases of its operations. I work with them wholeheartedly.

PERSONNEL: COOPERATION

- ☐ **A.** I am able to get along with most of my people most of the time.
- ☐ **B.** Machines put out the goods; there are plenty of men to run the machines.
- ☐ **C.** Mutual understanding of our personalities and problems makes for winning teamwork in my group.
- ☐ **D.** Some people are just plain ornery and don't want to do what's right.
- ☐ **E.** As a rule, my people work well both with me and with each other.

GRIEVANCES

- ☐ **A.** Some employees want to be molly-coddled all the time.
- ☐ **B.** Some grievances are real, others are fancied.
- ☐ **C.** I settle grievances at once, and only from facts; if I fail to settle one, I pass it on at once to my superior.
- ☐ **D.** I don't like a complainer. I'd rather fire him and get along with the job.
- ☐ **E.** I listen carefully to all grievances and try to make a fair decision.

LEADERSHIP, INSPIRATION

- ☐ **A.** I spend some time when I can talking to my people about their jobs.
- ☐ **B.** I haven't time to be selling a lot of blue sky; men don't want it.
- ☐ **C.** Talking to people slows down the machines too much.
- ☐ **D.** I believe I can best serve the future of my company by developing strong and able men in my department.
- ☐ **E.** I get a thrill out of developing men; an important part of my job.

PRODUCTION

- ☐ **A.** As long as I do these 11 things carefully, I find my production is tops. Balanced supervision pays production dividends.
- ☐ **B.** We're the hardest working outfit in the plant, but we get a lot of tough breaks so our production is low.
- ☐ **C.** My production isn't tops, but we work hard at it.
- ☐ **D.** My production is usually well above average.
- ☐ **E.** My machines are going at top speed most of the time, but somehow I never get the top production.

FOR NUMERICAL SCORES, SEE BACK PAGE

RATINGS FOR FOREMAN'S BALANCE SHEET

				Your Score
CLEANLINESS, ORDERLINESS	A = 80 B = 40	C = 20 D = 100	E = 60	.....
SAFETY	A = 60 B = 20	C = 100 D = 40	E = 80	.....
QUALITY	A = 80 B = 20	C = 60 D = 40	E = 100	.....
COSTS	A = 60 B = 100	C = 20 D = 40	E = 80	.....
METHODS	A = 100 B = 20	C = 80 D = 60	E = 40	.....
MACHINES	A = 60 B = 40	C = 80 D = 100	E = 20	.....
MATERIALS	A = 80 B = 100	C = 60 D = 20	E = 40	.....
POLICIES	A = 80 B = 60	C = 40 D = 20	E = 100	.....
PERSONNEL: COOPERATION	A = 60 B = 20	C = 100 D = 40	E = 80	.....
GRIEVANCES	A = 40 B = 60	C = 100 D = 20	E = 80	.....
LEADERSHIP, INSPIRATION	A = 60 B = 20	C = 40 D = 100	E = 80	.....
PRODUCTION	A = 100 B = 20	C = 60 D = 80	E = 40	.....
			TOTAL	.....

1,000-1,200	EXCELLENT
900- 999	GOOD
800- 899	FAIR
Under 800	POOR

QUESTIONS & ANSWERS

Uneven Woolen Yarn

Technical Editor:

Can you put me in touch with a good carder and spinner who will tell me what is the matter with yarn on inclosed card. (8858)

Considerable difficulty in analyzing this sample was encountered as the yarn difficulty was not stated. However, on weighing the sample, it was found to be approximately 1.5 run. As this yarn was olive drab, undoubtedly the yarn is to be used in 32-oz. army overcoatings. Testing two-inch lengths of yarn for twist it was found to run from 7- to 8¾-t.p.i. or a variation from 0- to 1¾-t.p.i. encountered. Uneven twist, however, caused in spinning does not appear to be responsible for the thick and thin places appearing in the yarn. In our opinion your difficulty is caused in the mixing or carding process.

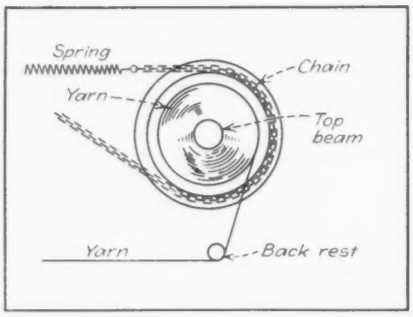
Overloading the card so as to obtain exceptionally high production might cause the stock to roll, running the card too long between each stripping, or running the workers and doffers too slow may cause this difficulty. Open settings, wire not sufficiently sharp, improper speeds, etc., might also be responsible for your difficulty. As no information is given as to the mix or the manner of blending the stock, we cannot give a definite statement as to the fault that may cause unevenness in the yarn.

Tensioning Top Beams

Technical Editor:

We shall appreciate any information you can supply in reference to handling of 11/2 mercerized cotton when woven from an extra beam or as we call a back beam. With 100/2 mercerized cotton, we use an extra beam with a friction let-off. We use a leather strap over a steel drum that is attached to the extra beam and add weight according to the number of ends on the beam. Our difficulty is that if we weave cotton tight enough to stop small loops and floats on the cotton, we get broken cotton in the finishing of the fabric, as the fabric must be run tight on some of the finishing machines. (8859)

A common but incorrect practice is to use a rope or leather friction for light top beams. A small link chain should be used, the thickness of chain depending on weight of beam and amount of yarn being delivered. Another common but incorrect practice is to adjust the tension spring so that the yarn will pull from a dead end, instead of pulling from the spring.



Correct method of tensioning back beam.

The accompanying sketch shows how top beams should be tensioned. Using this correct method of tension and a suitable link chain there will be little danger of tight and loose delivery. The yarn must pull away from the spring tension, not against it.

Removing Dope from Jacquard Twine

Technical Editor:

I am enclosing a sample of Jacquard twine attached to a steel heddle, and would appreciate your suggestion for cleaning off this twine so as to use the heddles over again. The dressing applied to keep the knots from slipping was shellac. (8873)

Since the dressing applied was shellac, the best softener or remover would be denatured alcohol. In many cases alcohol is used as a solvent of shellac. Other removers that are effective are acetone, or a mixture of acetone and benzene, 1 part of each.

Doffing Singly or in Teams

Technical Editor:

A few days ago, I was talking shop with a doffer who works in the warp spinning department of one of the cotton mills in this community. This man has been doffing spinning frames for 30 years; starting when a child of 12 years. He feels his section foreman, who is a textile school graduate but not a practical mill man, is forcing him and his associate doffers to doff in the most primitive and inefficient way. So, he has asked me to take his question up with you for verification.

This doffer contends that doffers should work in pairs or squads of four, depending on the number of spindles on a side. If they work in pairs, one doffer takes one side, and the other one takes the other side. In this manner, a frame can be doffed in less than half the time than would be possible when one man doffs both sides. However, he can't make his boss see it that way.

If you know of any advantage doffing spinning frames singly I would be glad to see it in your columns, or hear from you direct. I can think of no good reason for this method of doffing. I will pass your reply on to this man. (8868)

The problem of whether doffing can best be carried out singly or in teams is one that constantly arises in our textile mills. Some mills which have studied the problem use both systems. One mill, for example, finds it preferable to use two or more doffers whenever the doffing intervals are such that the number of spindles doffed on any given yarn count equal the necessary or prescribed basis. For instance, if 50 frames of warp on the same count are doffed a sufficient number of times in a week to equal the basis for two doffers, then two doffers are put on without hesitation and are paired. A doff such as this would be placed on a "doff rotation schedule." An imitation clock, with the hands advanced, always shows the time when the first frame of this doffing interval is due to be doffed. However, if the section contains various yarn counts, care must be taken that frames of a shorter doffing interval are not idle while the doffers are finishing frames of a longer doffing interval, and vice-versa. Where there is a wide divergence in running times, it is wise to have one doffing unit on a staggered doff. The frames to be doffed are not in rotation. The doffers have several short rests periods instead of one definite rest period as in the case of a doff rotation on one yarn count.

If it is a staggered doff of warp and filling and the doffers know that a few frames of warp are going to be due to doff while they are doffing filling, a short doff on the warp will not do much harm, and little production is lost.

In no event does this mill put on a single doffer unless it has to where the various doffing intervals are such, and the number of frames running is such, that it would be inexpedient to do otherwise. There is no excuse for not using team doffers if a sufficient number of frames are running on a given yarn count. Maximum production is possible only when frames are stopped the shortest possible length of time.

NEWS OF THE MONTH

Textile Research Meeting Nov. 13

Because of the multitude of problems growing out of the war and confronting both Government agencies and textile manufacturers, the annual meeting of the Textile Research Institute, Inc., to be held at Hotel Roosevelt, New York, Nov. 13, will be of dramatic interest. A session has been planned for the afternoon of that date, at which technicians and operating executives from all parts of the industry will discuss these war research problems and the activities growing out of them.

This technical session will be preceded by luncheon to be addressed by a prominent speaker from the field of research. The name of the speaker will be announced shortly. In the morning a brief business meeting will be held for members.

In order to make the discussions industry-wide in their scope, the luncheon and the technical session in the afternoon will be open to all engaged in the textile industry, whether or not members of the Textile Research Institute. The Institute is particularly anxious to get full representation of technicians at the afternoon session. Those planning to attend are invited to send in their names to the Institute's office, 10 E. 40th Street, New York.

Southern Hosiery Association Reports

Since the Southern Hosiery Manufacturers Association will not hold a convention this year, its secretary, Taylor R. Durham, is submitting a brief report of the activities for the year directly to the members. The report shows that the association membership has reached an all-time high, 24 members having joined since the last annual meeting.

Employer-employee relations during the year have been unusually satisfactory in the hosiery industry in the Southern area, it is noted. Only four elections have been held by the National Labor Relations Board. In three of these, there was no certification, and in the fourth case a majority voted for an independent union.

Greenville Textile Exposition Deferred

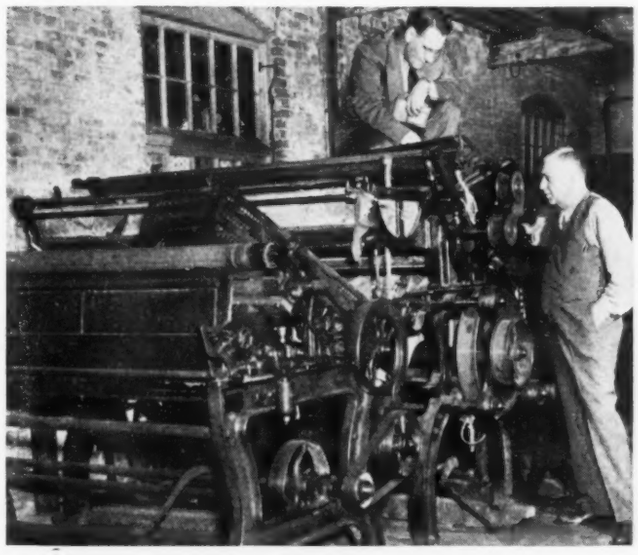
The Executive Committee of Textile Hall Corp., Greenville, S. C., has announced that the date of the 15th Southern Textile Exposition will be deferred. The show was to have been held April 5 to 10, 1943, but war conditions are of such a nature as to make it advisable to hold the exposition later. No definite time has been fixed, but the committee will later select a date and authorize issuing the prospectus.

More than 100 applications are still on file after a few exhibitors having war contracts in other than the textile field, or for other reasons, withdrew. The postponement is not for lack of exhibitors. Other factors, including the difficulties of transportation, brought about the decision to defer the exposition until conditions are more favorable. In the meantime, preparatory work for the show continued.

"Cotton Fights on Every Front"

The above is the title of a pamphlet prepared by the Cotton-Textile Institute, Inc., picturing the exhibit of War Cottons assembled by the industry to become a part of the Army War Show now touring the country. The exhibit itself is conveying to millions of Americans the fact that cotton mills are as important to the war effort as munitions factories. The purpose of the booklet is to enable this same thought to be dramatized to textile mill employees in order that they themselves will realize that they are engaged in an industry essential for the successful prosecution of war, and that any lost time is detrimental to the war effort.

Dr. Claudius T. Murchison, president of the Institute, has announced that his organization is prepared to supply copies in quantity lots at cost for distribution among employees.



HOCKANUM MILLS, of M. T. Stevens & Sons Co., Rockville, Conn., has collected and turned in 31,580 lb. of scrap during the last three months. It is estimated that this comprises sufficient metal to manufacture 4,678 3-in. shells. In the accompanying illustration, F. S. Nettleton, general superintendent of the plant, (right) is discussing with Frank Johnson, WPB salvage executive, the disposal of a dampening machine which is to be scrapped.

Carolina Yarn Golf Tournament Postponed

Due to transportation difficulties and war conditions the Carolina Yarn Association by a 46-to-5 ballot of the membership voted to postpone its annual golf tournaments for the duration.

To Study High-Strength Cotton Yarns

Under the Textile Research Planning Committee of the Quartermaster Corps, of which Major S. J. Kennedy is chairman, there is being set up a panel to study problems relating to the development and use of high-strength cotton yarns. One of the possibilities to be considered is that of making a more durable, and lighter cotton yarn than is now produced. Another is that of using high-strength cotton yarns in place of sisal for making rope. The first meeting of the panel, held Sept. 14, was attended by Major Kennedy; Milton Harris, director of research of the Textile Research Institute and the Textile Foundation; W. D. Appel, chief of textile section, National Bureau of Standards; George R. Dugan and Her-

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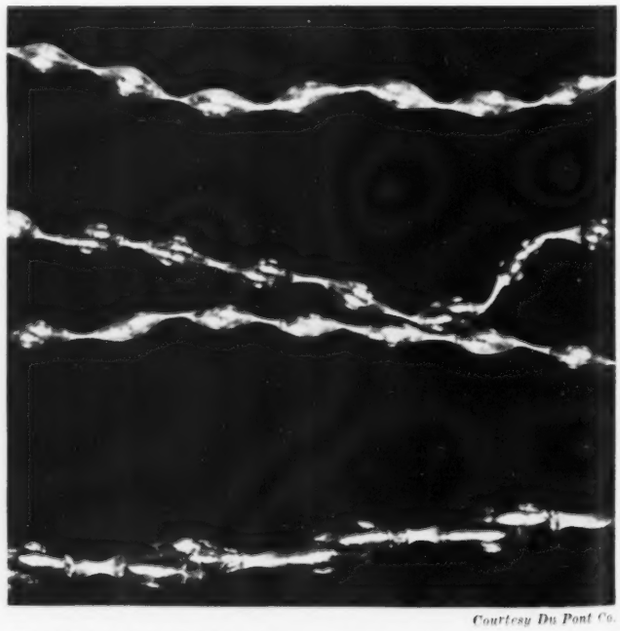
man D. Nichols, of WPB Conservation Division; Ralph Butland and H. A. Secrest, of the QMC; A. Y. Willis, Jr., and R. J. Cheatham, of the U. S. Department of Agriculture; R. F. Nickerson, of Mellon Institute; J. T. Wigington, Cotton-Textile Institute; Albert Scott, president, Lockwood Greene Engineers; P. M. Collier, of Callaway Mills; and A. W. Hansen, of U. S. Rubber Co.

Control of American Yarn & Processing Co. Passes to R. F. Dixon

The investment banking firm of R. F. Dixon & Co., Charlotte, N. C., has purchased the controlling interests in the 2½ million dollar American Yarn & Processing Co. of Mt. Holly and Maiden, N. C. It is said that all minority stockholders have been given an opportunity to sell at the same price paid to the majority stockholders. Under an agreement between the Hutchinson and Lowe interests, the Dixon interests became the controlling owner of the properties on Sept. 29. These properties consist of five modern spinning plants and a building leased to a dyeing and finishing firm. The firm's average weekly payroll is about $31,000. A number of the present officers have agreed to serve on the board and to act in an advisory capacity at least to 1943, and the new owners say that no material changes in management or personnel are contemplated.

Corbin Presents Pacific Award

Brig. Gen. C. L. Corbin, of the Quartermaster General's Office, Washington, presented the Army-Navy "E" Award to the Pacific Mills Worsted Division at Lawrence, Mass., Sept. 22. The banner, which is the symbol of the award, was accepted on behalf of the company by E. Dean Walen, vice-president. Henry M. Bliss, president, spoke briefly. Capt. G. C. Hall, representing the United States Navy, presented "E" pins to two representative employees, Andrew S. Camp-



Courtesy Du Pont Co.

STRANDS OF CELLOPHANE BUBBLES—Resembling strings of transparent beads, this new cellulose product, "Bubblfil," made by Du Pont is buoyant and resilient and is designed to replace imported kapok in life-jackets and life-rafts, and to take the place of scarce sponge rubber as a shock-absorbing material. The bubbles cannot be broken by squeezing nor will they rupture in the low pressures of altitudes over 50,000 ft. The material also has useful thermal insulating characteristics. It is regenerated cellulose, made by viscose process.

PACIFIC MILLS WORSTED DIVISION earned the distinction of being the first worsted mill in the country to receive the Army-Navy "E" Award. Presentation was on Sept. 22. Above, left to right: Capt. G. C. Hall, (S.C.) U.S.N.; Maj. Gen. Clifford L. Corbin, Chief of Procurement Services, Office of Quartermaster General; Governor Saltonstall, of Massachusetts; Mayor Meehan, of Lawrence; E. D. Walen, vice-president, Pacific Mills, Worsted Division; and Henry M. Bliss, president, Pacific Mills.

bell and Miss Alice E. Laporte, each with more than half-century of service record. Gov. Saltonstall of Massachusetts was among the distinguished guest speakers.

Knitters Warned on Mildew of Rayon Hosiery

Special precautions are needed to prevent mildewing of rayon hosiery in the gray, according to a recent announcement by the research department of the National Association of Hosiery Manufacturers. The report states that rayon in storage is subject to mildew, especially in humid weather. As a result of mildewing, considerable tendering of rayon takes place without any sign of the damage being visible microscopically. It is recommended that gray rayon hosiery should not be stored over two weeks in humid weather. The hosiery should be well dried prior to storage and should be stored in as cool and well ventilated a place as possible. It is noted also that a mildew preventive be added to materials used for sizing or lubricating rayon yarn or gray hosiery.

Combed Yarn Industry Committee

Appointment of a Combed Yarn Manufacturers Industry Committee has been announced by the War Production Board. Edwin Brower is the Government presiding officer. Members of the committee are: Sam M. Butler, Carlton Yarn Mills, Cherryville, N. C.; B. C. Chace, Crown Mfg. Co., South Attleboro, Mass.; R. D. Hall, Stowe Thread Mills, Belmont, N. C.; C. B. Knowles, Kilburn Mill, New Bedford, Mass.; Harold Lineberger, Acme Spinning Co., Belmont, N. C.; Frank Lyman, Fitchburg Yarn Mills, Fitchburg, Mass.; A. G. Myers, Textiles, Inc., Gastonia, N. C.; and A. K. Winget, Efird Mfg. Co., Albemarle, N. C.

Textile Education Courses

The sixth defense course in Fabric Testing and Inspecting opened Sept. 28 at North Carolina State College and will run for 12 weeks. All expenses except board, room rent, and books are paid by the Federal Government. This course prepares high school graduates for work in textile mills and possibly to qualify for Government service in the Quartermaster Corps as fabric inspectors.

New Bedford Textile School has added to its war courses

ARMSTRONG Steam Type Humidifiers have brought about a new conception of textile mill humidification. They are installed and used as simply as unit heaters—connected into existing steam supply lines. They are low in cost—small models capable of handling 40,000 cu. ft. of space or more list for only $100 complete with sensitive Friez humidistat and all accessories.

They give results that end your dry air problems permanently. It may pay you rich dividends to investigate the possibilities for application of Armstrong Humidification in your plant. A request for information does not obligate you.

ARMSTRONG MACHINE WORKS, 872 Maple St., Three Rivers, Mich.

WHO USES IT:

A few of the hundreds of leading textile plants enjoying the benefits of Armstrong Humidification:

KILBURN MILLS
ARKWRIGHT CORP.
MAYFLOWER WORSTED CO.
BLUE RIDGE TEXTILE CO.
SAKURA MILLS
MOOSEHEAD WOOLEN MILLS
JULIUS KAYSER CO., LTD.
VAN RAALTE CO.
BELDING CORTICELLI, LTD.
PRISCILLA WORSTED MILLS
SHAWMUT WOOLEN MILLS
WELDREST HOSIERY, LTD.
COE WOOLEN CO.
LACLEDE MFG. CO.
and many others.

What It Will Do For You:

1. PREVENT loss of weight, strength or quality of hygroscopic materials—speeds operations by reducing fiber breakage caused by brittleness.
2. CONTROL troublesome fly dust and static electricity.
3. CONTROL drying processes.
4. PROVIDE healthier working conditions.
5. IMPROVE workability of materials.

ANSWERS to your questions on humidification will be found in the informative Armstrong Humidifier Bulletin. Advantages, applications, hookups, recommended relative humidities for various types of work—all explained. Ask for your free copy.

Amazing!

how WALLUSTRE hides

MAINTENANCE, with a minimum of interruption to operating schedules, is of utmost importance today. That's why the Devoe Laboratories developed Extra-Hiding High Gloss WALLUSTRE, the modern paint that **does the job in just one coat.**

Another reason why maintenance engineers specify WALLUSTRE for all interior wall surfaces is that its lasting whiteness insures proper reflection and diffusion of every bit of light available.

Eight outstanding advantages make WALLUSTRE the maintenance paint for you to specify for your plant:

1. **One-coat hides black.**
2. **Amazing initial whiteness.**
3. **Stays white longer.**
4. **Modern synthetic vehicle.**
5. **Tough — long lasting.**
6. **Brushes smoothly — easy to apply.**
7. **Ideal for spray application.**
8. **Economical — high spreading rate.**

If conditions in your plant indicate a paint with high resistance to moisture, fungi or fumes, your Devoe Maintenance Representative can help you select the specialized type you need.

Write today for pamphlet WL-21 describing the complete Devoe Wallustre Maintenance Paint Line.

By improving sight with paint you help the National Safety Council's drive to reduce accidents and you build better morale among the workers in your own establishment.

DEVOE & RAYNOLDS CO., INC.

The 188th year of the oldest paint-maker in America

FIRST AVENUE AT 44th STREET, NEW YORK, N. Y.

Courtesy, Industrial Rayon Corp.

RAYON'S IMPORTANCE as essential war material is dramatized by Industrial Rayon Corp's. exhibit in a window at the National City Bank of Cleveland. Miniature rayon parachutes used for delivery of supplies and equipment and in the release of flares and fragmentation bombs are included in the display which consists primarily of blow-ups illustrating the use of rayon in communication systems, tires, insulation, uniforms, insignia, and aerial tow targets.

by starting a junior course to prepare younger students for tending, operating, adjusting, repairing textile machinery.

Columbia University announces evening textile courses under the direction of H. R. Mauersberger. The courses started Sept. 24, and extend for 15 weeks.

"Make and Mend"

The Spool Cotton Co., New York, has published a book entitled "Make and Mend," designed to help consumers do their bit for victory by rescuing and making over old garments and other remnants in the wardrobe. The book covers 50 pages of interesting pictures, diagrams, and instruction.

A.A.T.T. Meeting

Microscopy of textile fibers and their identification was discussed by Walter Kraus, of Sears Roebuck & Co., at a meeting of the American Association of Textile Technologists, held Sept. 16, in New York. Plans by OPA for limiting the types of textiles produced for civilian use were outlined briefly by Miss Lillian Edgerton of the Standards Division of OPA. The first project, according to Miss Edgerton, will be the standardization of work-clothes fabrics.

Power Show at Madison Square Garden

The Fifteenth Annual Exposition of Power and Mechanical Engineering will be held Nov. 30 to Dec. 5, in Madison Square Garden, New York. Change in location from Grand Central Palace was necessitated because of the fact that the Army has taken over the latter building for use as an induction center. To date more than 150 exhibitors have taken space.

Accident Rates Rise in Textile Mills

Frequency of accidents in textile mills increased 23% in 1941 over 1940, and severity rates increased 33%, according to a report issued recently by the National Safety Council. The large increase in the frequency rate was due partly to sharply higher rates in large mills, where the average increase was 31% in comparison with 9% for small mills.

TEXTILE CALENDAR

Cotton-Textile Institute, annual meeting, Waldorf-Astoria Hotel, New York, Oct. 22, 1942.

Committee D-13, American Society for Testing Materials, fall meeting, Hotel Pennsylvania, New York, Oct. 14 to 16, 1942.

National Chemical Exposition, Sherman Hotel, Chicago, Ill., Nov. 17 to 22, 1942.

National Exposition of Power & Mechanical Engineering, Grand Central Palace, New York, Nov. 30 to Dec. 5, 1942.

National Cotton Council, annual meeting, Memphis, Tenn., Jan. 16 to 25, 1943.

Honor Awards

The Army and Navy "E" awards have been made lately to the following firms:

Munsingwear, Inc., Minneapolis, Minn.
Kent Mfg. Co., Clifton Heights, Pa.
Beaumont Mills, Spartanburg, S. C.
West Point Mfg. Co., Langdale and Shawmut, Ala.
Boott Mills, Lowell, Mass.
Cramerton (N. C.) Mills
Pacific Mills, Worsted Division, Lawrence, Mass.
Veeder-Root, Inc., Hartford, Conn.
Bausch & Lomb Optical Co., Rochester, N. Y.
Victor Chemical Works, Mt. Pleasant, Tenn.
Stewart-Warner Corp., Chicago, Ill.
American Machine & Metals, Inc., East Moline, Ill.
E. I. du Pont de Nemours & Co., Neoprene Plant, Rubber Chemicals Division, Deepwater, N. J.
Lincoln Mills, Huntsville, Ala.
Wilton (Maine) Woolen Mills
Worumbo Mfg. Co., Lisbon Falls, Maine
Aberfoyle, Inc., Norfolk, Va.
United Elastic Corp., East Hampton, Mass.
Tyer Rubber Co., Andover, Mass.
Goodyear Tire & Rubber Co. (Plant No. 3), Akron, Ohio
Worthington Pump & Machinery Corp., Holyoke, Mass.
Firestone Tire & Rubber Co., Firestone Park, Akron, Ohio
Firestone Rubber & Latex Products Co., Fall River, Mass.
Babcock & Wilcox Co., Barberton Works, Barberton, Ohio
(Maritime Commission's "M", in addition to the Navy's "E")

AT NACM BANQUET in Boston on Oct. 1 (see story on page 72) Virginia Jewel (at left), of CTI, directed an impressive style show.

The Sponsors of Fibber McGee and Molly make good paint, too!

JOHNSON'S

Wax-Fortified

MILL WHITE GLOSS

Made by the makers of Johnson's Wax

3 outstanding advantages for textile mills!

New performance standards are here for Mill White Gloss! They're made possible by a remarkable achievement in paint formulation . . . the impregnation of paint with genuine wax. In Johnson's Wax-Fortified Mill White Gloss textile mills are offered a truly modern paint. It dries to a wax-smooth surface that repels dirt and lint . . . resists mildew . . . maintains its light-reflective values. These qualities are especially advantageous now when both manpower and materials must be conserved. Write today for new descriptive booklet.

S. C. JOHNSON & SON, Inc

Industrial Maintenance Division

Dept. TW-102 **Racine, Wisconsin**

INCREASE the EFFICIENCY of YOUR

Water Conditioning System

GRAVER

Chemical Proportioner

PROPER conditioning of water demands accurate, uniform control of the chemical charge in proportion to the volume of water being treated. The Graver Chemical Proportioner is a new device which has been developed to meet this demand most efficiently and economically. Note these features:

- ★ Insures uniform treatment at all times regardless of volume of water entering treating plant.
- ★ May be operated from contactor on any standard meter or flow measuring device.
- ★ Chemical feeder and proportioner may be located any distance from meter or control.
- ★ Accurate within 2% at all flow rates.
- ★ Permits instant increase or reduction of chemical charge over a wide range should water require change of treatment.
- ★ Readily adapted to any make of solution type chemical feeder where swing pipe or skimmer can be installed.

The Graver Chemical Proportioner is backed by more than 30 years' experience in the design and manufacture of water conditioning equipment of all types. Get the facts—today—about this modern equipment.

See our exhibit at the 1942 National Chemical Exposition, Booth 104, Sherman Hotel, Chicago, Nov. 24th to 29th.

GRAVER **Write for Bulletin.**

WATER SOFTENERS • CLARIFIERS • FILTRATION SYSTEMS
SEWAGE EQUIPMENT • VAPOR CONSERVATION SYSTEMS
STEEL STORAGE TANKS • WELDED CONSTRUCTION • STRESS RELIEVING
X-RAYING • FABRICATED STEEL AND CORROSION-RESISTING PLATE

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Albert Scott to Discuss Latin American Textile Industry

The cotton-textile industry of Latin America will be discussed by Albert L. Scott, president, Lockwood Greene Engineers, Inc., at a meeting to be held at the Hotel Roosevelt, New York, Nov. 5, at 8 p.m. Mr. Scott plans to present a survey of the entire textile industry in Latin America, covering raw materials, labor, technical progress, tariffs, problems of financing, and related matters. Special attention will be given to the growing cotton industry of Brazil. Textiles in Cuba and Mexico will also be included in this survey. All textile men are invited to attend the meeting, which is being sponsored by the Latin American Economic Institute, 429 West 117th St., New York.

This and That

Woolens from South America are making their appearance on the New York market.

Fingerprinting nearly 14,000 workers in the Riverside & Dan River Cotton Mills, which has been in progress for the last two months, is nearly complete. The records are being sent to the Army Third Corps area. The mill authorities, it was learned, were enjoined from permitting the records to be cleared through the local police department.

A program for the planting of 300,000 acres of hemp for fiber and construction of 71 mills for processing of the hemp into line and tow fiber to be used in the manufacture of rope and twine was approved last month by WPB.

Tubize Chatillon Corp. is releasing, in magazines, a campaign for Tubize rayon that ties in with the Government emphasis on conservation, giving detailed instructions for the care of garments made of Tubize.

The cotton "straw" hat illustrated in these columns in August is being marketed by Hollander & Co., New York. The fabric is from Wellington Sears Co., having been developed by G. Raymond Hahn, designer.

The American Wool Council has filed protest against WPB's recent order L-130 forbidding use of wool in lounging robes for men and boys after present stocks in hands of robe manufacturers are used up. "This order," said the Council, "destroys a long established traditional market for wool which provides the public with an irreplaceable article of apparel essential to its health and comfort."

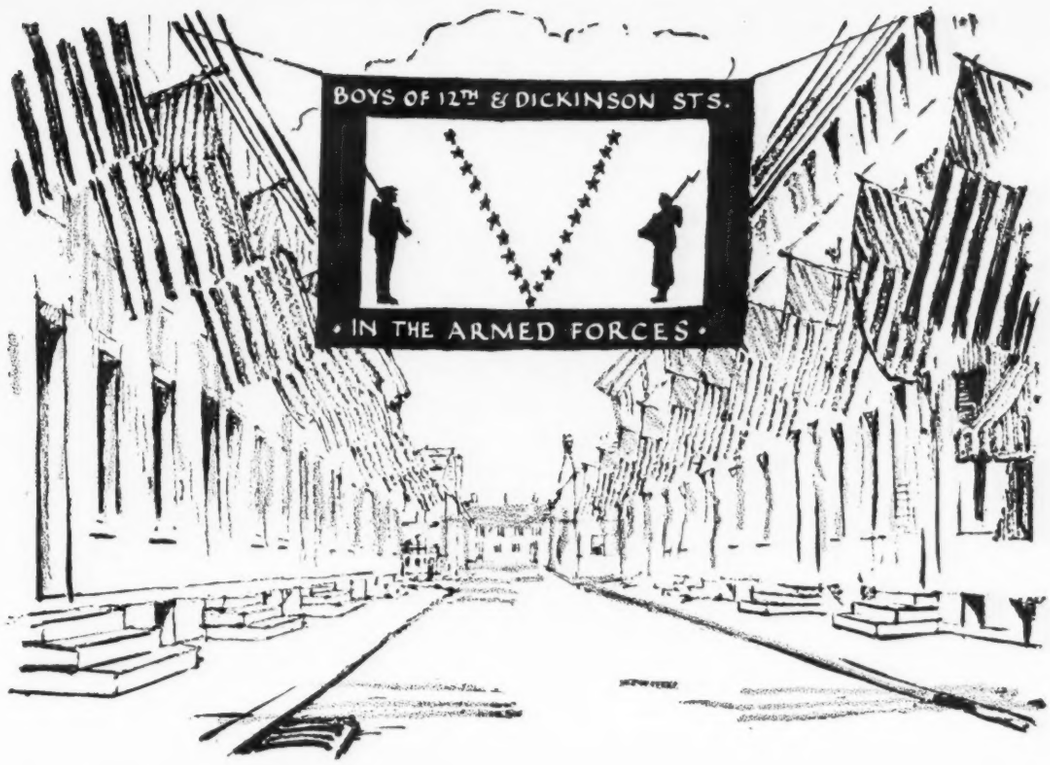
As a contribution to the carpet industry's efforts to increase both trade and consumer acceptance of the new synthetic fabrics, the Charles P. Cochrane Co. has recently mailed to its customers a six-page color folder on its Denafield All-Rayon Rug line.

Purdue University is setting up a 12-week course in fabrics testing and inspection modeled after a course which the North Carolina State College Textile School has been giving for more than a year. The course is set up to provide field inspectors for the Army Quartermaster Corps.

Cutting manpower wastage in the face of a threatened labor shortage will be detailed at the Seventh Annual Meeting of the Industrial Hygiene Foundation, scheduled for Mellon Institute, Pittsburgh, Pa., Nov. 10 and 11. The meeting of Foundation members, most of them companies producing war materials, has for its theme, "Health Arms the War Workers."

Celanese Corp. has issued an attractive color card promoting its new line of colors, trademarked "Mississippi Magic."

A clearing house for consultants has been established by the Association of Consulting Chemists & Mechanical Engineers, Inc., 50 East 41th St., New York, as a free service



Johnny Heard About the Service Flag Today

Somewhere in northern Ireland, a private in the A.E.F. was proud and happy today when a letter from home brought a picture of the service flag in his old neighborhood.

It's just a square of cotton . . . But, it is part of all he is fighting for.

It takes 15 to 25 million yards of cloth a year to make flags for a fighting America—the Stars and Stripes, service flags, banners of Army, Navy and Marines.

It's a man-sized job for the Textile Industry. It's an extra job too—in addition to the full-time responsibility of clothing and equipping America's armed forces.

Butterworth Machines play their part in the battle of production at every step in the wet end of Textile finishing—bleaching. boiling-out, drying, calendering, dyeing.

The Butterworth Organization is at your service . . . to locate and break annoying bottlenecks . . . to help you to improve, repair and replace obsolete equipment to the utmost of our ability.

All of our facilities not required for Ordnance production are available for building finishing equipment. Deliveries on appropriate priorities to mills serving the war effort.

H. W. BUTTERWORTH & SONS CO.
Phila., Pa. Serving the Textile Industry since 1820
Offices in Providence, R. I. and Charlotte, N.C.
In Canada: W. J. Westaway Co., Hamilton, Ont.

***64%**

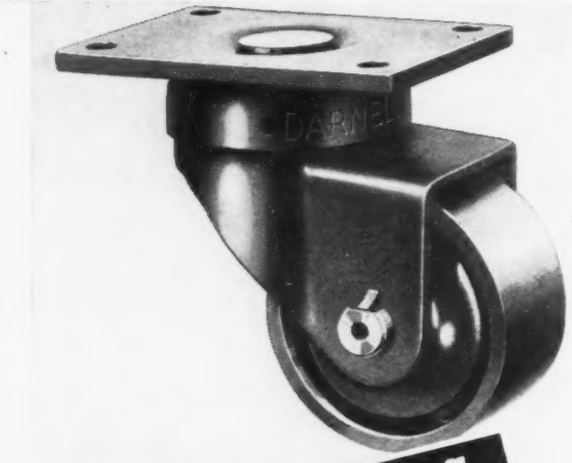
of equipment now in use in the wet end of textile finishing cannot operate at a profit in competition with modern machines.

*Proved by Research

Butterworth

PRODUCING GUN MOUNTS FOR THE UNITED STATES ARMY

DARNELL
Casters & Wheels



KEEP TURNING AND EARNING

Users are enthusiastic about Darnell Casters and Wheels because they enable them to economize, while at the same time to increase efficiency of employes. Darnell Double Ball Bearing Casters and E-Z Roll Wheels offer many advantages not found in ordinary types of casters and wheels.

DARNELL CORP., LTD., LONG BEACH, CALIF.
36 N. CLINTON, CHICAGO • 60 WALKER ST., NEW YORK

referring those who ask for assistance to consultants specializing in any given field.

As a substitute for burlap and other bagging materials, a new product known as Aqualized paper has been announced by Brown & Co., 500 Fifth Ave., New York. The product is characterized by a high wet strength and is available in either water-repellent on non-water-repellent types.

Aralac is being employed as a filling for comforters by Fleer Associates, Chicago.

Trading Quiet As Market Makes Further Adjustments

Cotton goods remained relatively quiet during October despite the fact that considerable yardage was wanted for civilian purposes. Mills were awaiting Government orders and were interested only in business of high priority rating. Before the month ended it was announced that QM would open informal offers on Oct. 16 for a total of 82,500,000 yd. of cotton goods and many mills were awaiting the outcome.

Wool goods sellers continue to dispose of their offerings on an allotment basis to their civilian customers, while Government business continues much in the majority. Utilization of blended fabrics is still dragging and the prospect seems to be that all-wool fabrics will have the call until it is no longer possible to obtain them. The raw wool situation is peculiar in that the wool growers are complaining loudly about low prices and the menace of the large and growing stock pile of imported wools, while at the same time raw wool ranks the highest in a list of farm products rated as to their price relation to parity. Wool has been selling at about 142% of parity, while cotton is on the basis of about 96% parity.

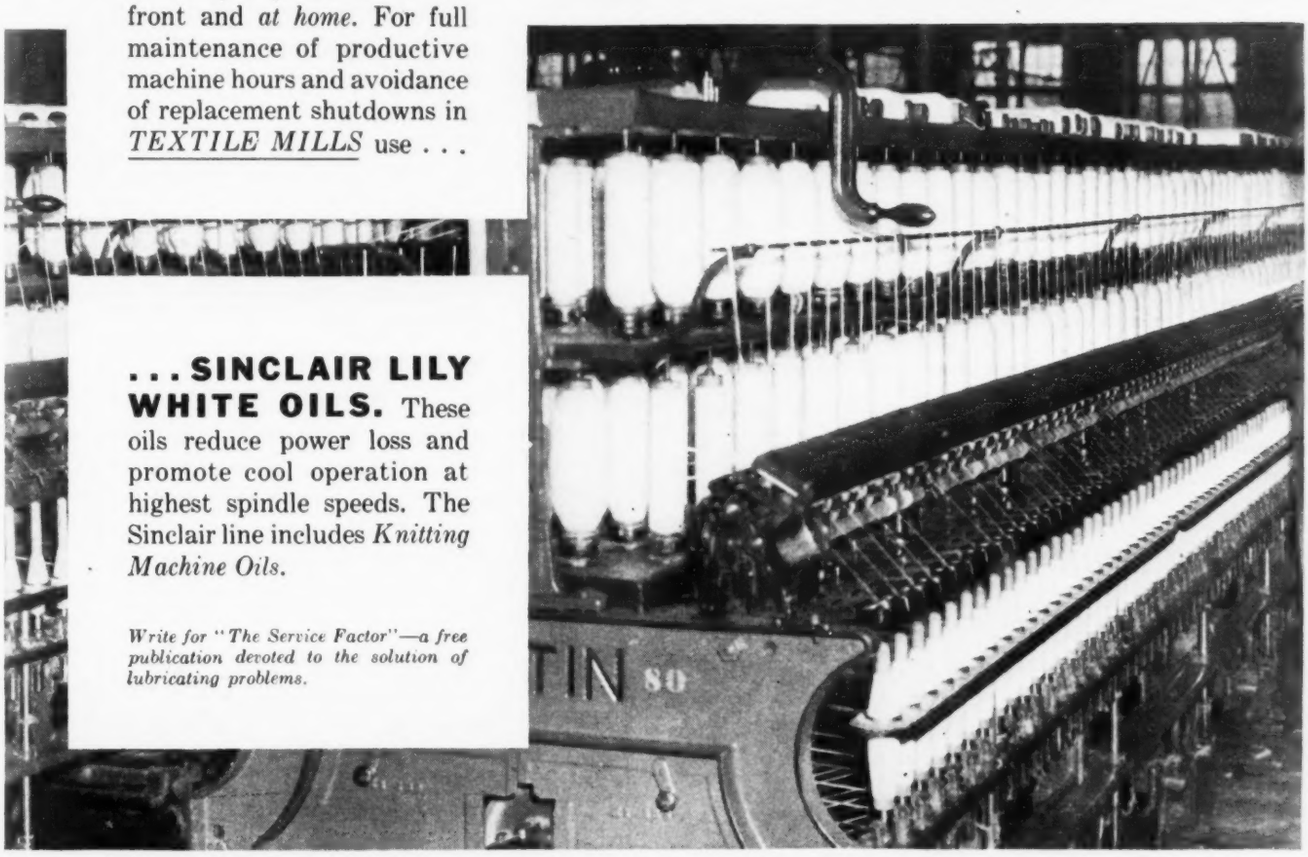
Rayon manufacturers continue to sell yarn from month to month without difficulty. It is generally accepted that considerable blocks of production are being converted to high-tenacity rayon for military purposes, and will, in ensuing months, be unavailable for civilian trade. Converters of rayon fabrics are worried that they will be unable to replenish their best selling items once their existing stocks are disposed of. Style problems are not worrying the trade very much at present, since they are sticking close to the successes of the past season.

Hosiery buyers who have left their needs uncovered are finding that the rayon full-fashioned situation is tighter than they expected. The most sought-after items, which are those involving the finer yarns, are becoming scarce. The 100-denier items are the finest still to be had in fair quantities. Some of the heavier weights of full-fashioned rayon hosiery are in fairly heavy supply, but any type of rayon hosiery may become scarce within the next five or six months if the conversion of viscose rayon plants to a high-tenacity product for Government use proceeds as rapidly as is expected. Mills which offer attractive goods have been booking a large volume of business. Some branded numbers in 42-gage, 100-denier are still quoted at $5.25.

Underwear manufacturers in considerable numbers find that their fall prices, as figured for them by OPA, are on a profitless level. The difficulty arises from the fact that last March which was made the basis of the general maximum price order, witnessed small sales of fall goods. OPA, however, in a recent order set prices on fall underwear, apparently based on figures near the previous opening levels.

Outerwear manufacturers have opened bathing suits for the 1943 season. Lines are styled in conformance to the new regulations, and, of course, the Lastex numbers are out. Because of the restrictions on wool, there will be more rayon and blended yarn items. In several cases these goods can be offered at surprisingly low figures.

MAINTENANCE is today's problem at the front and *at home*. For full maintenance of productive machine hours and avoidance of replacement shutdowns in *TEXTILE MILLS* use . . .



. . . SINCLAIR LILY WHITE OILS. These oils reduce power loss and promote cool operation at highest spindle speeds. The Sinclair line includes *Knitting Machine Oils.*

Write for "The Service Factor"—a free publication devoted to the solution of lubricating problems.

SINCLAIR TEXTILE LUBRICANTS

FOR FULL INFORMATION OR LUBRICATION COUNSEL WRITE NEAREST SINCLAIR OFFICE

SINCLAIR REFINING COMPANY (Inc.)

2540 West Cermak Road, Chicago • 10 West 51st Street, New York City • Rialto Bldg., Kansas City • 573 West Peachtree Street, Atlanta • Fair Building, Ft. Worth

under severest tests possible

fabrics treated with

Protela

MILDEW PROOFING COMPOUND

preserve to a striking degree their original strength and efficiency

Under extremely stringent tests, fabric treated with PROTELA emerges with its mildew proofing properties still highly effective.

SIXTY-FOUR MILLION yards of fabric have been successfully mildewproofed with PROTELA for Government use within the last eighteen months.

For any type of fabric made of vegetable fibre . . . cotton, linen, jute, sisal, hemp, paper . . . PROTELA is a durable, highly economical, mold-and-mildew proofing compound, easy-to-apply.

PROTELLA is non-poisonous and non-inflammable.

PROTELA is effective under all conditions of heat, sunlight, and humidity . . . including those of the tropics.

INVESTIGATE PROTELA for tobacco shade cloth, fire hose, nets, ropes, wooden shade material, deck covers, shower curtains, awnings, road mats, asbestos water pipe coverings, shoe linings, and all canvas products.

WRITE!

Albi Chemical Corporation

9 PARK PLACE, NEW YORK

Converted for War Work

Narrow fabric industry now rushed 24 hours a day on military orders

DEMAND FOR NARROW FABRICS used by the armed forces is enormous, and offers an opportunity for the manufacturer to enlist in an essential business and serve his country at the same time, according to a survey made by the Fletcher Works, Philadelphia.

Recently the Quartermaster Corps required a light tape; the mills equipped to produce this type fabric economically had every loom weaving similar tapes. To meet the emergency, when the tape could not be procured, a slit fabric with an edge that could be fused was substituted. Slit duck fabric has been used, because of the dire need of a single ply webbing. Another substitute has been a braid, run through a sewing machine and several threads inserted to hold the fabric from stretching.

A wonderful job, continues the Fletcher survey, has been accomplished by the narrow fabric industry in converting from peacetime products to Government requirements. Other facts referred to in the survey follow:

Government specifications for light-construction tape is practically the same as it is for civilian uses. Consequently, the tape mills had no alterations to make on their equipment.

Elastic and non-elastic light-web manufacturers had slight changes to make on their looms to weave the intermediate grades of webbing; in many cases only a change of cams.

Mills equipped with heavy narrow-fabric looms, formerly employed to weave belting, asbestos brake-lining, wicking, and similar fabrics, had little difficulty changing their equipment to weave heavy webbing of Government specifications. Some cloth looms have been converted into narrow fabric looms to weave webbing.

At the outbreak of the war, demand for heavy woven fabrics was greater than could be produced on existing equipment in the United States. The especially designed "Victory" looms have been built to meet the demand and a number are in operation.

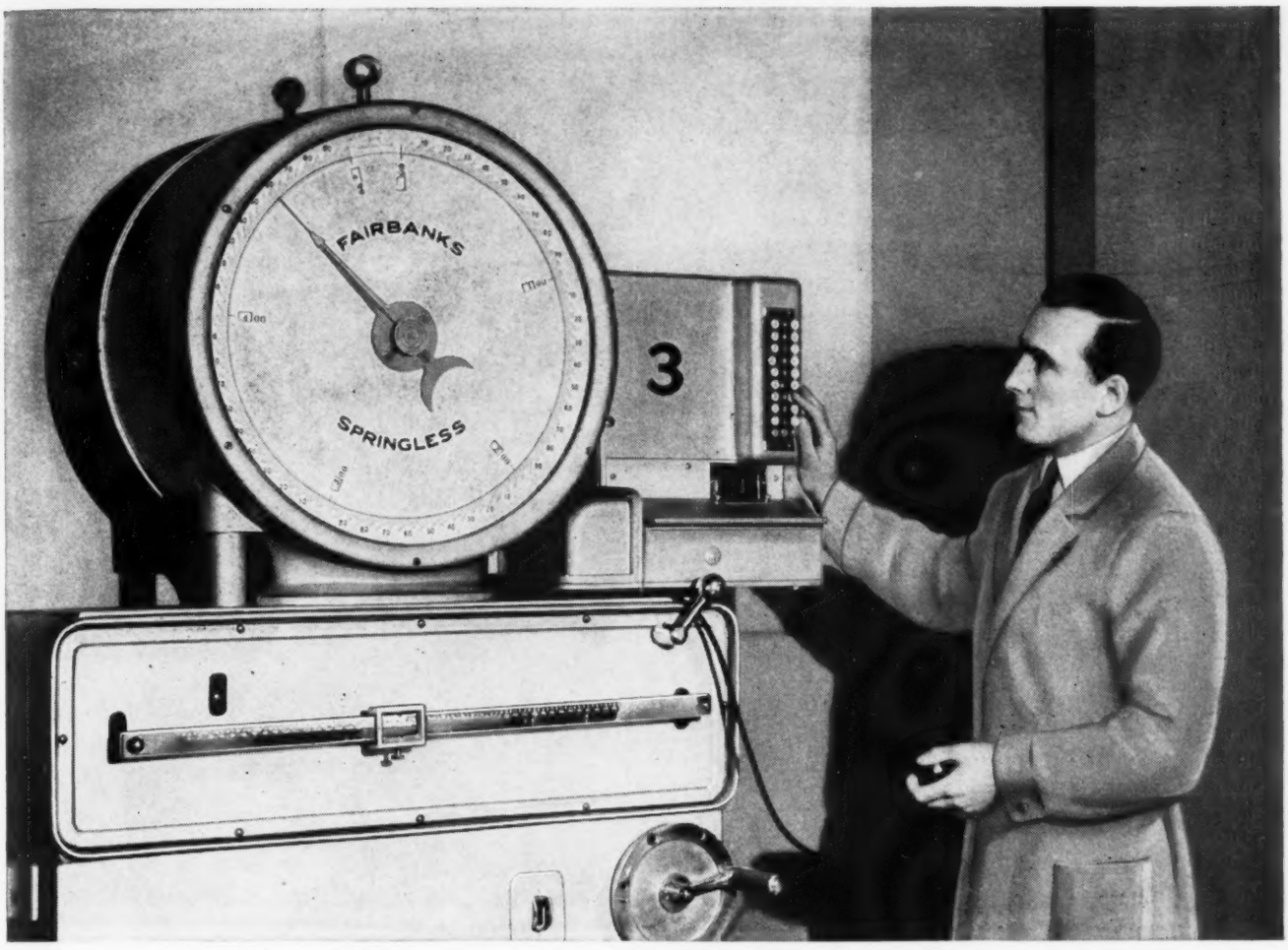
Narrow fabrics woven with asbestos yarns are being produced for use in mechanized units. The looms employed by this industry did not require any changes.

The venetian-blind tape manufacturers are making a good showing in producing machine-gun webbing. The mills were able to make the necessary changes to their looms, and several of the elastic webbing companies have changed their equipment to make machine gun belts. In addition, one company that formerly made automobile trimmings is now weaving these belts.

Ribbon, label and trimming manufacturers, eager to serve the country had to make drastic changes in their looms to weave either the light or medium webs. It was necessary for most of these mills to employ a new method of let-off for the warps. New battens, harness motions, and winding-up arrangements had to be purchased.

Before the war there was very little linen fire hose woven on narrow fabric looms in this country. Now new companies are weaving quantities on looms especially designed to meet the requirement of a non-stretch yarn. Glass yarns are being woven on a number of looms. The use of Nylon in either filling or warp and filling for narrow fabrics is common. High tenacity rayon is probably the newest yarn to be woven into a narrow fabric.

All the various groups of the narrow fabric industries had to undergo a period of transition, the same as other industries, to accomplish their purpose. Coming close to the end of the first year at war, we find the weavers of narrow fabrics operating on a 24-hour day basis.



THIS SCALE READS ITSELF

...Prints the Weight, Too, at the Touch of a Button

Yes, this modern Fairbanks Scale *reads itself* with unvarying accuracy, and *prints* the correct weight on ticket or tape or both. It speeds production by weighing faster. It prevents the great losses which result from repeated small errors. It replaces scrawled, hard-to-read figures with clearly printed records of weights and related data.

And, important as those advantages can be in your plant, they result from but one of many plus values available in today's Fairbanks Scales. For the applications of these scales are vastly extended . . . not only by automatic printing devices, but also by ingenious uses of photo-electric cells, limit switches, and other electric control mechanisms.

LET US HELP YOU SPEED PRODUCTION

We want to do everything within our power to help speed American production. Possibly our scale engineers could suggest new and more efficient uses of your present scales, or modernizations which would attune them better to today's tempo. Consultation involves no cost or obligation. Write Fairbanks, Morse & Co., Dept. J-204, 600 S. Michigan Ave., Chicago. Branches and service stations throughout the United States and Canada.

FAIRBANKS·MORSE SCALES

DIESEL ENGINES ELECTRICAL MACHINERY MAGNETOS RAILROAD EQUIPMENT WASHERS-IRONERS STOKERS
PUMPS MOTORS FAIRBANKS SCALES WATER SYSTEMS FARM EQUIPMENT AIR CONDITIONERS

Certified Climate

A Textile Necessity

MAKES possible a better product, frequently from lower grades of staple. Production is often improved as much as 2½ to 3 per cent. Certified Climate has been known to pay for itself in less than a year.

Parks-Cramer Company

Fitchburg, Mass. Charlotte, N. C.

PART OF THE CROWD which gathered at Stonington on Labor Day for the exercises "Atwood at War."

"Atwood At War" Celebration

Ceremony marks joint achievement of labor and management in war effort

"ATWOOD AT WAR" was the theme of the inspiring Labor Day celebration held at Atwood Machine Co., Stonington, Conn. The occasion was of particular interest to the textile industry since both military and civilian authorities were present in this textile machinery plant to mark the joint achievement of labor and management in the war effort. In addition to the officials of the Army, Navy and civilian Governments, there was a large gathering of workers and friends of the company.

Speakers included: Franklin R. Hoadley, president, the Atwood Machine Co.; Capt. E. F. Cutts, Commanding Officer, U.S. Submarine Base, New London; Dr. Katherine Blunt, president, Connecticut College for Women; Wm. J. Fitzgerald, member of the House Military Affairs Committee; Capt. James Pine, Commandant of the U. S. Coast Guard Academy; Maj. Lee H. Tucker, Adjutant to Commanding Officer of Harbor Defenses, Fort Wright; Mrs. Chase Going Woodhouse, Secretary of State, Conn.; Lieut. Murray Preston, Motor Torpedo Boat Training Station, Milville, R. I.

In his address Mr. Hoadley said, "In the few short months since Pearl Harbor this nation has achieved the greatest war production record in the history of the world. America has already demonstrated not only its will to win, but its ability to win. . . . There are 600 of us at Atwood—working day and night to do our share."

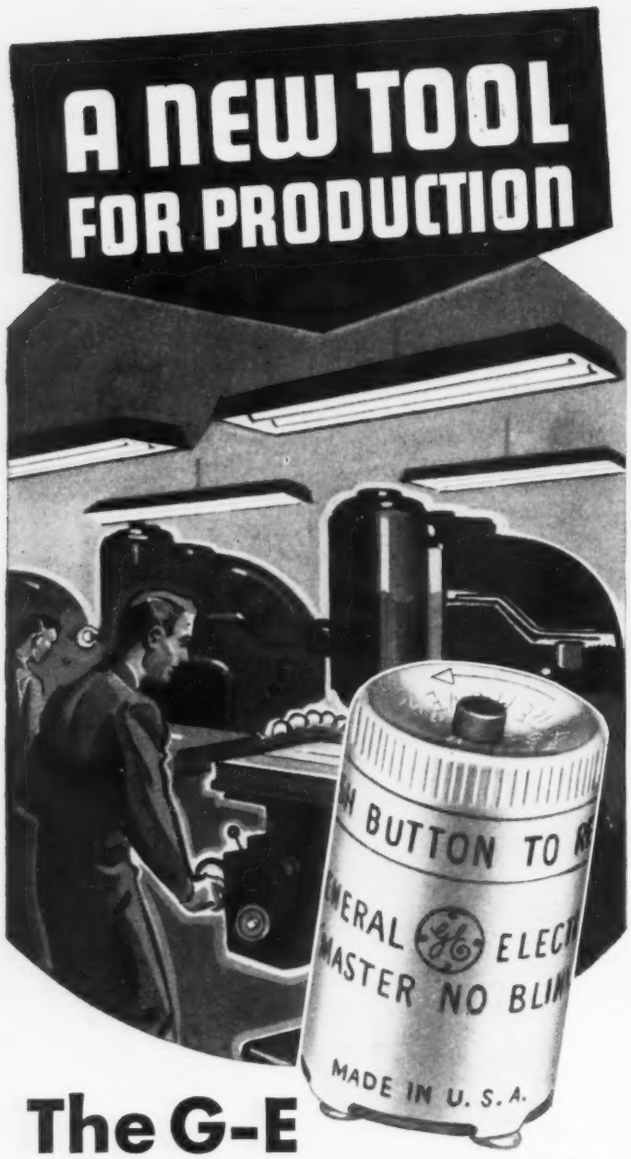
FRANKLIN R. HOADLEY, president, Atwood Machine Co., at microphone about to conduct radio interviews with Barbara Trumbull (at left), ex-college girl now an efficient machinist in the Atwood shop; George Berry (over Mr. Hoadley's shoulder), a veteran machinist, 72 years old and active at his trade for 55; Joe De Bragga (at right), foreman, with company for 45 years.

ANYTHING AS softly feminine as this blouse of rayon crepe owes much of its eye-appeal and style to correct processing of the material itself. Many of the leading mills, converters, finishers, and dyers depend entirely on high-quality Colgate-Palmolive-Peet products for this correct processing.

Ask your local C.P.P. representative for full particulars about Colgate-Palmolive-Peet wetting, fulling, scouring and dispersing agents. And remember—in spite of the many material and style changes that may result from the war, C.P.P. processing soaps and detergents are effective on any type of fabric.

INDUSTRIAL DEPARTMENT **COLGATE-PALMOLIVE-PEET CO.** JERSEY CITY, N. J.

COLGATE T.K.S. SOAP • COLGATE KWIKSOLV • ARCTIC SYNTEX "M" • COLGATE FULLING SOAP • COLGATE BLENDED FULLING SOAP
COLGATE FORMULA 25 • COLGATE WHITE SOAP FLAKES • ARCTIC CRYSTAL FLAKES • BADGER FLAKES



The G-E "MASTER NO BLINK" Fluorescent Starter

A radically new G-E fluorescent starter—the "Master No Blink"—eliminates flickering of dead lamps and helps to increase war production in three new important ways:

IT SAVES TIME by allowing *instant* dead lamp replacements. That means less maintenance time wasted in war factories.

IT SAVES POWER by eliminating *all* flow of current from the ballast under dead lamp conditions. Other starters require current to keep the lamp from flickering, thereby wasting power.

IT SAVES MATERIALS by reducing the number of replacement starters. The G-E "Master No Blink" will last longer than any other starter.

Ask us today for full particulars—how it operates and how it saves you money. Just write to Section G1021-109, Appliance and Merchandise Dept., General Electric Co., Bridgeport, Conn.

GENERAL ELECTRIC

Addenda to War Manual

(*Continued from page* 66)

ened further by amendments to Conservation Orders M-124 and M-174, announced WPB on Aug. 27, to assure sufficient supplies of such materials to the armed forces. The Webbing and Braiding Section, WPB, on Sept. 5 urged manufacturers and jobbers to submit representative samples of their frozen elastic fabrics regardless of length, to facilitate the war program. All elastic fabric up to six inches in width was frozen on Aug. 26 by an amendment to Conservation Order M-174 (Elastic Fabrics).

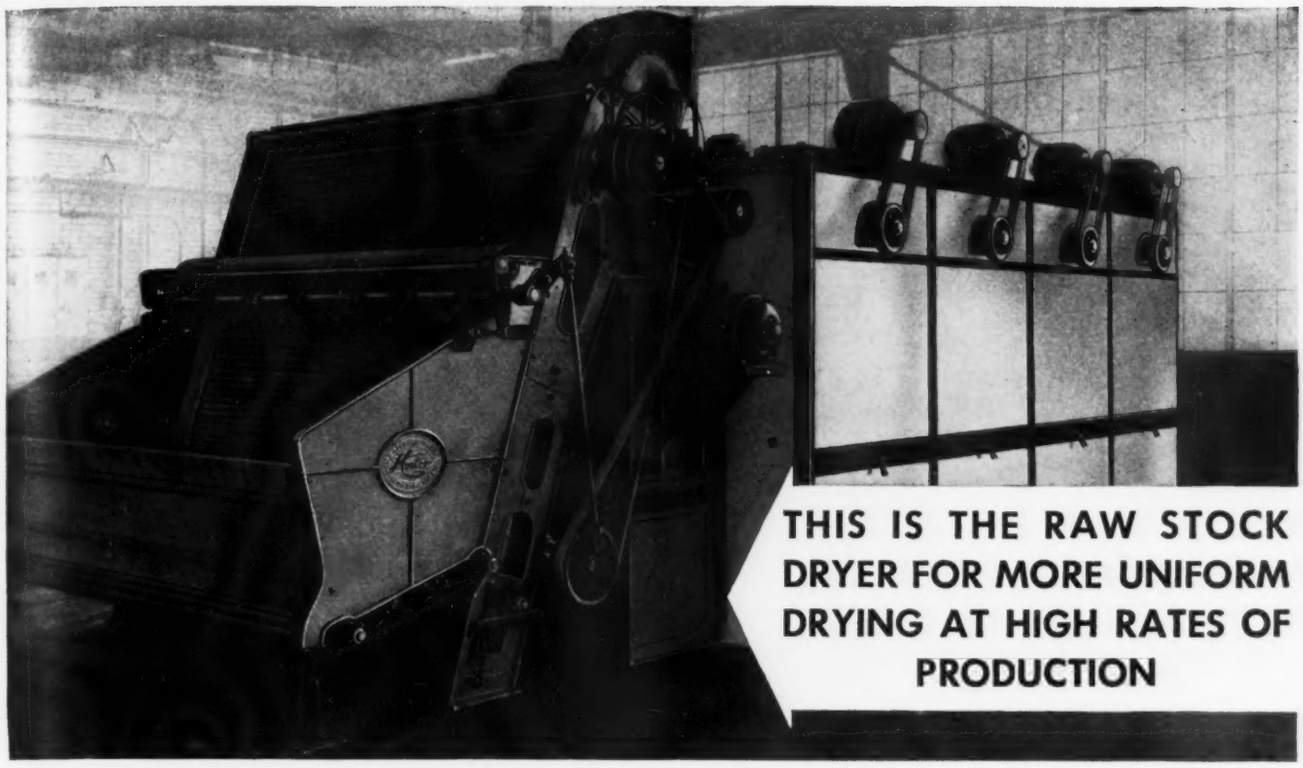
Manila Cordage—Manila cordage may now be purchased for permitted uses without specific authorization of the Director General for Operations, WPB announced on Sept. 9. In an amendment to Order M-36, covering processing and sale of manila cordage, the WPB withdrew the previous requirement that all deliveries be specifically authorized and substituted the provision that there be attached to every purchase order a certificate naming the war agency for which the material is requested and also giving the contract number.

Rayon Yarn—The rayon yarn allocation order, M-73-a, was amended Sept. 1 by WPB as follows: 1. Cuprammonium rayon yarn is added to the kinds of rayon yarn of which a producer must set aside a percentage for export to South American countries. This will add about 53,000 lb. a month of rayon yarn to be made available for export to South America; 2. The procedure for obtaining export licenses for exporting the reserved rayon yarn is changed to facilitate such exports; 3. Control is established over the distribution of residual supplies of rayon yarn to make certain that a customer who fills rated orders gets as much of the residual rayon yarn for civilian business as a customer who does not have rated orders. Residual rayon yarn is the yarn remaining in the hands of a producer after he has filled domestic and export allocations and has filled all rated orders placed with him.

Used Silk Hosiery—In response to inquiries from dealers holding frozen stocks of used silk hosiery, WPB on Sept. 14 pointed out that sales of the material can be made without restriction to the Defense Supplies Corp. Used silk hosiery, which can be utilized for production of powder bags, has been frozen in the hands of dealers since July 20 under provisions of Conservation Order M-182. The only exceptions to the freeze order are stockings repaired for resale as second-hand hosiery and sales to DSC pursuant to Regulation No. 13.

Woolen Robes—The manufacture of woolen lounging robes for men and boys is prohibited in an order, L-130, issued Aug. 28 by WPB. Manufacturers may use woolen fabrics they owned or had in their possession on the date of issuance of the order but when that is gone they may not use cloth containing any wool in robes, bathrobes, or beachcoats.

Wool Skins—Restrictions on foreign unshorn lamb skins are removed from Conservation Order M-94 as amended July 30 by Amendment No. 1, issued in late September by WPB. All wool skins under two inches in wool length were reserved for the Army Air Forces in the order as amended July 30. However, some foreign unshorn lamb skins are small and are unsuited for flying suits. The order releases such skins for civilian use by reclassifying them from shearlings, which are restricted, to wool skins, which are not as restricted. The principal uses of foreign unshorn lamb skins are linings in clothing and gloves.



THIS IS THE RAW STOCK DRYER FOR MORE UNIFORM DRYING AT HIGH RATES OF PRODUCTION

Illustrated on this page is the new Hunter Uniflow Raw Stock Dryer. Top view shows standard feed; lower view shows rotary feed.

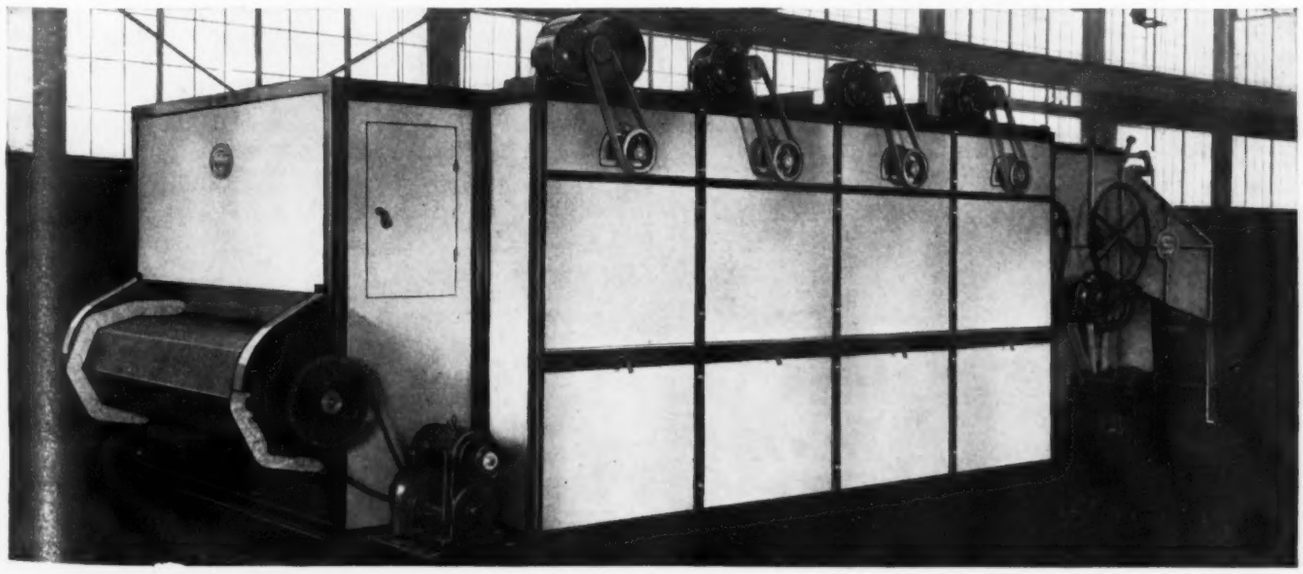
Installed and running in plants handling such diversified raw materials as jute, cotton linters and staple, rags, hair, scoured and dyed wools, it is setting new productive highs with a new uniformity of drying. For example:

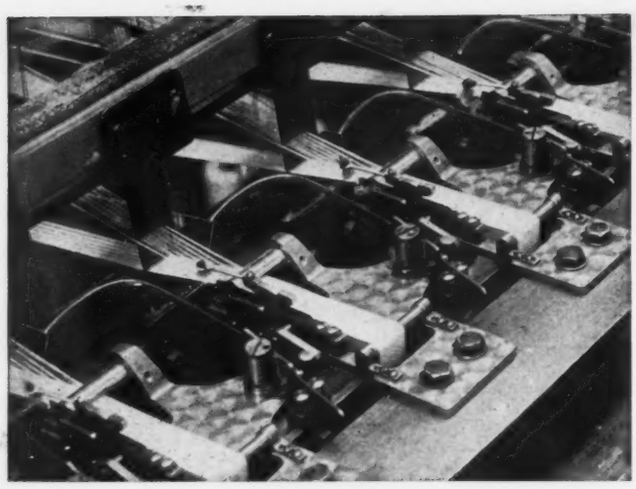
As stock passes along the apron, it can be turned over at a predetermined point by uniquely controlled airstreams, thus giving a uniformity of drying unavailable in other known units. Extended surface heaters are used throughout, and all heaters are screened against flying lint. It is equipped with special steel plate apron, traveling wool guards and baffles that accurately direct airstreams. There is a size for every application. For complete details and installation data, write to

JAMES HUNTER MACHINE COMPANY

FOUNDED 1847 · NORTH ADAMS, MASS.

Western Representative: E. G. PAULES, 343 Bendix Bldg., Los Angeles, Calif.





CLUTSOM HIGHSPEED WEAVING MACHINES

The Clutsom highspeed shuttleless loom gives high production in a wide range of narrow textile fabrics.

Rigid or elastic webbing, tapes, zipper tapes, venetian blind tapes, rug bindings, ribbons and hospital webs are some of the various items in regular production.

Wages have risen—operators are costly—no material should be wasted that can be saved. The Clutsom machine gives greatly increased production for the same amount of wages paid—cuts material waste to the minimum—no skilled labor required.

A demonstration machine can be seen at this address.

It is possible at present to give limited delivery of machines immediately.

CLUTSOM MACHINES INC.

205 EAST 42 STREET **NEW YORK**

Telephone MUrray Hill 4-2327

FACTORY: Springdale, Connecticut

NEWS ABOUT MEN

Thomas B. Hill has joined the organization of Iselin Jefferson Co., New York, to assume the management of that company's rayon finished goods division. Mr. Hill was with C. K. Eagle & Co. for 21 years and for 12 years president. In 1930 he founded the Greyco Sales Corp., of which he was president for three years. In 1939 he joined Cheney Bros. to head a broad fabrics commission agency which that company organized. In his new connection Mr. Hill will be directly associated with **Floyd W. Jefferson, Jr.**, the firm member who heads the rayon division. This company's entrance into the rayon field is coincident with its appointment as the selling agent of Verney Mills, Manchester, N. H., and Peterborough (N.H.) Mills.

Robert R. West, who was president of the Riverside & Dan River Cotton Mills for a number of years, and who lately has been special technical assistant to the Secretary of War, is leaving that post to become assistant to the president of Esmond (R. I.) Mills and a director of that company.

John E. Paradine, sales manager of Westminster, Ltd., New York, has been elected vice-president and a director of the firm. Mr. Paradine has been with Westminster for six and one-half years.

George W. LeValley has been elected president and general manager of the Narragansett Finishing Co., Westerly, R. I. **Arthur B. Gervasini** is treasurer and **Thomas H. Bryant** is secretary.

Herbert G. Mortland, who has been with Cannon Mills, New York, for the last 21 years, specializing on the sale of gray goods for industrial purposes, has been elected a vice-president of that company.

F. E. Grier, Greenwood, S.C., has been elected president of the Grendel and Panola Mills, Greenwood; Anderson (S.C.) Mills; Belton (S.C.) Mills, and Courtenay Mfg. Co., Newry, (S.C.) succeeding the late J. P. Abney. He was also elected treasurer of all of the mills except Anderson Mills, of which **J. Richard Abney** will continue to serve as treasurer. Other officers elected for the group were: **H. E. Runge**, Belton, executive vice-president; **E. W. Seigler,** Greenwood, general manager, and **John Sidney Abney,** Greenwood, assistant treasurer.

Frank I. Neild, former president of Neild Mfg. Co., New Bedford, Mass., and of the N.A. C.M., lately in charge of a cotton mill in Manila but unheard from since last November, is reported through the State Department to be alive and well up to June in Santo Tomas, the internment camp at Manila.

A. G. Ainsworth has been elected president of Gonzales (Tex.) Cotton Mills, succeeding Spencer Ainsworth, who died recently.

H. C. Kane has been elected president of Tennessee Line & Twine Co., Elizabethton, Tenn.

Eugene Cross, Jr., has been elected president of the Cross Cotton Mills, Marion, N. C., succeeding his father, the late Eugene Cross.

J. D. Pell has been elected president of Angle Silk Mills, Inc., Rocky Mount, Va.

N. Barnard Murphy has been elected president and general manager of Trion (Ga.) Co., succeeding **J. L. Riegel**, who is now chairman of the board.

Wm. H. Ellis has become vice-president and general manager of Carolina Narrow Fabric Co., Winston-Salem, N. C.

H. V. W. Scott, with Van Raalte Co., New York, for 22 years and for a number of years technical director in charge of production and research, has resigned to join Stevenson, Jordan & Harrison.

A. A. Wright, since 1925 in the cotton gray goods department of Deering, Milliken & Co., New York, has been elected a vice-president of that firm.

Burton E. Oppenheim, formerly price executive of the Textiles, Leather and Apparel Division of OPA, has been appointed assistant to **J. K. Galbraith,** deputy administrator in charge of prices. **B. F. Haley** of San Francisco, is acting director of the Textiles, Leather and Apparel Division.

E. H. Scull, of E. H. Scull Co., New York, who has been chief of the Clothing Section of the Textiles, Clothing and Leather Branch of WPB, has been appointed a special assistant to **Frank Walton** deputy chief of the branch. **G. R. MacDonald** now heads the Clothing Section.

Ernest L. Starr has been appointed representative in the Fourth Federal District Civil Service Office at Winston-Salem, N. C. Mr. Starr has been active in the promotion of textiles,

PUT *ALL* YOUR POWER IN THE JOB

All your power delivered to production machines *now*, means more air power, fire power, battle power for fighting men in the air, on the sea, and on the land, sooner and faster. It is the Victory formula for shortening the war.

You can get more battle power out of horsepower immediately with Dodge Rolling Bearings. Installed quickly and economically, they save power from wasting itself battling friction — give motors the opportunity to put all their power into the job of production. Lubricant is locked in by indestructible steel seals, that pass all power through but shut out destructive substances.

Dodge Rolling Bearings are rugged—carry heavy loads and resist shocks —permit high speed operation—insure continuous performance. They reduce wear and maintenance, prolong life of machinery. Seals exclude dust, dirt and water, remove danger of damage to product through oil leakage. 50,000,000 revolutions can ordinarily be expected with one greasing. They provide dual load carrying capacity capable of accommodating both radial and thrust loads — simplify design of machinery — permit standardization and allow interchangeability.

Dodge Bearings are available in a wide selection of types and sizes, suitable for all service conditions.

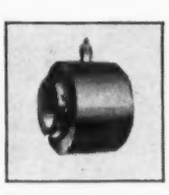
Dodge Distributors specializing in "The Right Drive for Every Job" provide industry with a source of supply from local stocks, including alternate selections.

DODGE MANUFACTURING CORPORATION, *Mishawaka, Indiana, U. S. A.*

Dodge-Timken Special Duty Ball and Socket Pillow Block.

Dodge-Timken Special Duty "S 1" Pillow Block.

Dodge-Timken Special Duty "D" Unit Mount.



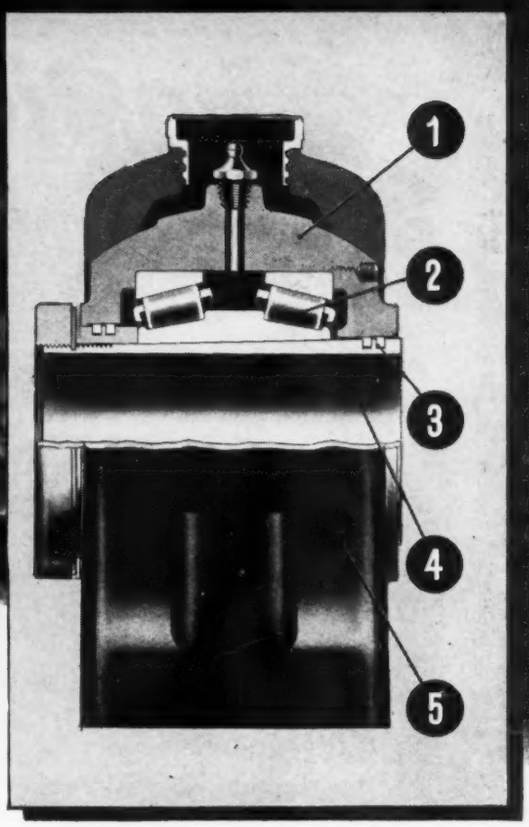
Dodge-Timken Special Duty "B 1" Unit Mount.

Dodge-Timken Special Duty "S 1" Unit Mount.

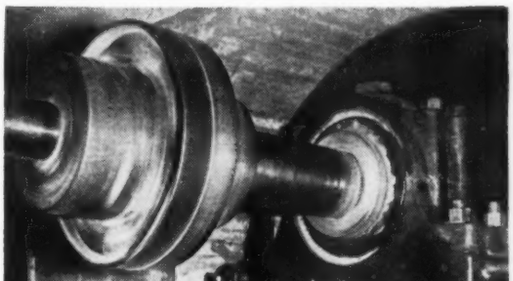
DODGE

MISHAWAKA

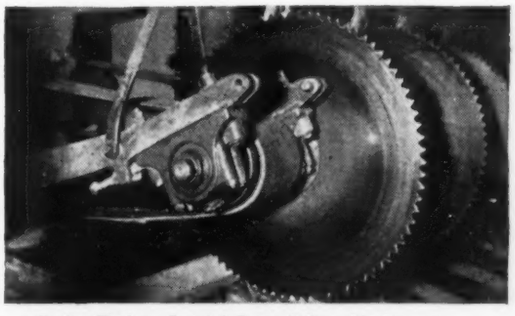
THE RIGHT DRIVE FOR EVERY JOB



1. Full ball and socket self alignment saves wear and power waste — simplifies installations.
2. Timken tapered roller bearings give full radial and thrust load capacity, vital to putting all the power in the job.
3. All-metal automotive type piston ring seals keep grease in and dirt out—close the bearing tight to foreign substance but leave it wide open to passage of power.
4. Long split adaptor sleeve distributes load over entire length of bearing — reduces pressure per square inch on shaft and eliminates peening action which causes rapid wear.
5. Rugged, well proportioned outer housing gives over-all protection to bearing.



Faced with the problem of immediately stepping up production, putting more power in the job, a North Carolina textile mill reports that Dodge-Timken Special Duty Bearings (shown above) helped solve the problem of power transmission modernization quickly and economically.



Dodge-Timken Special Duty Pillow Blocks are reducing both power and maintenance costs in this West Coast lumber mill installation. The ability of Dodge bearings to absorb shock loads and smoothly cushion power is saving materials and power every day.

POWER *Dives* BEGIN WITH POWER *Drives*

Just a few cents worth removes the starch from hundreds of yards of cotton and mixed cotton fabrics

Desize with EXSIZE

Exsize is a liquid concentrate of enzymes that removes starch gently and naturally. Because it is fast and thorough in action it reduces the amount of chemicals needed for bleaching and dyeing and permits this reduced quantity to be more efficient.

Exsize contains no chemicals or alkalis to injure the finest fabrics. For further, complete information send for FREE booklet —today!

PABST BREWERIES

Our laboratory facilities and practical field men are available to help you with desizing problems.

PABST SALES COMPANY

CHICAGO, ILLINOIS

•

Warehouses at New York,

and Textile Warehouse Co., Greenville, S. C.

NEWS ABOUT MEN

having been connected with the Rayon Institute of America, the Durene Association, and the International Silk Guild.

W. G. Willoschat, of Hesslein & Co., New York, has been elected president of the Downtown Textile Credit Group, succeeding the late Winslow A. Parker of Southeastern Cottons, Inc.

William M. McLaurine, secretary of the American Cotton Manufacturers Association, is to be tendered a testimonial dinner at the Hotel Astor, New York on the evening of Oct. 21. The event is sponsored by the Textile Square Club and is to be known as the "Textiles in Victory Dinner."

M. T. Foster has been appointed to head the shirting department of Clarence C. Brown & Co., New York.

Cantwell Clark, formerly of Old Hickory, Tenn., has been appointed manager of the Buffalo, N. Y., rayon and cellophane plants of E. I. du Pont de Nemours & Co. He succeeds **R. T. Cann** who has been transferred to the Wilmington, Del., unit of the company.

C. W. Scott, New York representative of the Bradley Mfg. Co., Columbus, Ga., since 1927, has joined the organization of Schoolfield & Co., New York, yarn selling agents.

Erle Brizard, who has handled price ceilings on tickings and on some carded piece goods, has resigned from OPA and joined the Cotton Yarn Department of Callaway Mills, New York. Prior to his OPA connection Mr. Brizard was with William L. Barrell Co.

Carl S. Kincaid, president of the Magnet Mills, Clinton, Tenn., has been appointed chief of the hosiery unit of the knit goods section of the textile, clothing and Leather Division of WPB. The knit goods section is headed by **John Shireman.** Mr. Kincaid succeeds **James D. Mayer,** of Hanes Hosiery, Inc., who resigned recently.

S. W. Hempstead has been elected general manager of Martha Mills, Textile Division of B. F. Goodrich Co., Thomaston, Ga., succeeding **Albert T. Mathews,** who has retired.

Frank F. Willingham, secretary of Indera Mills, Winston-Salem, N. C., has become connected in a civilian capacity with the Naval Bureau of Ordnance.

W. K. Dana, formerly assistant superintendent of Laurens (S.C.) Cotton Mills, and more recently with the Saco-Lowell Shops, has become a member of the staff of **Robert S. Dempsey,** head of the textile machinery division of the War Production Board, Washington, D. C.

A. C. McKee, production manager of Brookside Mills, Knoxville, Tenn., has accepted the position of purchasing agent, also.

A. W. Young, for the last 15 years superintendent of the Franklin Process Spinning Mill, Fingerville, Spartanburg County, S. C., has become general manager, and at the same time, **F. M. Padgett,** for several years superintendent of the Acworth (Ga.) Mills, became assistant to Mr. Young, in charge of manufacturing.

A. R. Macormac, who is associate professor of chemistry, textile department of the Alabama Polytechnic Institute, Auburn, Ala., has been appointed as textile consultant to the Army Quartermaster Corps, Washington, D. C.

Howard S. Shearer, for the last 14 years a research associate with the Technical Department of National Association of Hosiery Manufacturers at the National Bureau of Standards, Washington, D. C., has joined the Sales Development Department of American Viscose Corp. at Marcus Hook, Pa.

Frederick Moore, formerly secretary of Florence (Ala.) Cotton Mills, has been appointed manager.

Wm. Buxton has become manager of the South Boston (Va.) Weaving Co.

Carl E. Gill, formerly director of industrial relations and personnel, Walter Baker Co. division of General Foods Corp., Boston, Mass., has been appointed director of industrial relations for the Wanskuck, Steere and Geneva Mills of the Wanskuck Co., Providence, R. I.

Arthur K. Stewart, Stamford, Conn., has been made agent of Holyoke, Mass., mill of the American Thread Co. He succeeds **Frederick W. Prentice,** retired after 41 years with the company.

Herbert Bernstein has been appointed sales manager for Raytex Printers, Inc., Paterson, N. J., and will be in charge of the New York office. Most recently he was with Barclay Fabrics, Inc.

Leon J. Blumberg has been appointed advertising manager of Lycoming Hosiery Co., New York.

Jack Altman, newly appointed treasurer and sales manager of United Merchants & Manufacturers, Inc., New York, was tendered a luncheon last month at the Wool Club by his associates in Scheuer & Co. from which he is resigning.

marks the spots where YARN is serving

Look in the South Pacific battlegrounds, ICELAND, IRELAND, ENGLAND, AFRICA, CHINA . . . Look wherever Democracy is fighting for our life . . . Cotton yarn is there in a hundred essential uses . . . It's going to help win this war . . . Its diversion to these purposes is a sacrifice which you and we are proud to make.

ESTABLISHED 1883

aberfoyle YARNS

AMERICA'S OLDEST MERCERIZERS OF FINE COTTON

ABERFOYLE MANUFACTURING COMPANY
123 South Broad Street, Philadelphia, Pa.

—and in the South

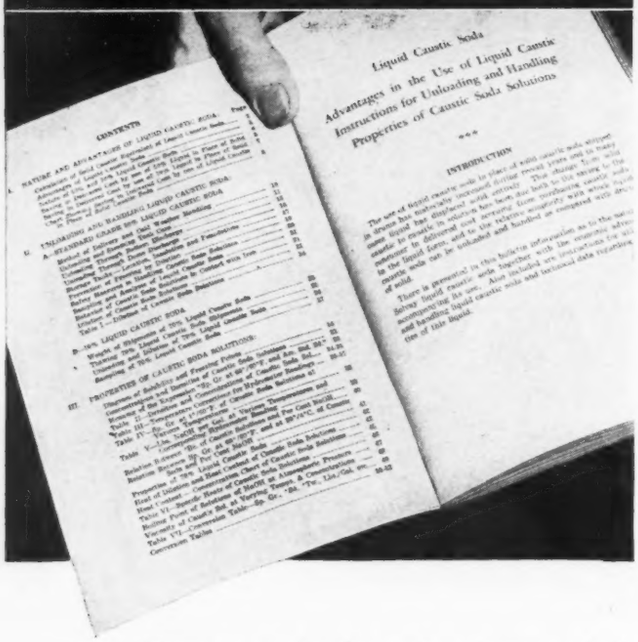
ABERFOYLE MANUFACTURING COMPANY
Belmont, North Carolina

Representatives in principal textile centers of the world

DURENE 2-Ply Mercerized Cotton Yarn • COMETCORD 4-Ply Mercerized Cotton Yarn for 6 x 3 Lines • S-P-Y, the Moisture Resistant Mercerized Yarn • NEOPHIL Nylon Thread for Seaming & Looping Nylon Hosiery • PREFERRED Brand Seaming & Looping Thread ENTWIST Mercerized Cotton Yarn and Nylon Twisted Combination • WEARTWIST, the Domestic Mercerized Lisle • DYED YARNS

BOOK OF THE YEAR

...To The Man Who Needs Down-to-Earth Information On Handling Caustic Soda!



If you are a technician or plant operator who is now "taking over" an assignment which necessitates a more specific knowledge of Caustic Soda than you previously required, *then write today for Solvay Technical Service Bulletin No. 6.*

This bulletin contains time-saving, factual information from which all sales talk has been eliminated. It is full of important tables, charts and other data on the handling of Caustic Soda. It is information which goes straight to the point... helps you improve efficiency, reduce man hours and increase production speed.

Solvay Technical Service Bulletin No. 6 on Liquid Caustic Soda is one of the series of Solvay Bulletins which are constantly being revised on the basis of new findings. For years this technical literature has had the recognition of plant operators, engineers and scholars who realize that such vital operations data concerning alkalies can only originate out of the breadth of accumulated experience Solvay has gained as America's oldest and largest manufacturer of alkalies.

If you don't use Caustic Soda, then send for any of the OTHER SOLVAY BULLETINS listed below, which pertain to your work.

SOLVAY SALES CORPORATION

Alkalies and Chemical Products Manufactured by The Solvay Process Company

40 RECTOR STREET NEW YORK, N. Y.

BRANCH SALES OFFICES:

Boston • Charlotte • Chicago • Cincinnati
Cleveland • Detroit • New Orleans • New York
Philadelphia • Pittsburgh • St. Louis • Syracuse

Use and handling of Caustic Soda • Analysis of Alkalies • Soda Ash Handling • Alkalies and Chlorine in Water Treatment • Analysis of Liquid Chlorine and Bleach • Water Analysis • Calcium Chloride in Refrigeration Road Surface Stabilization • Analysis of Calcium Chloride and Limestone

NEWS ABOUT MEN

Walter A. Diamond, who has been assistant to **William J. Welch,** superintendent of Oneida Bleachery, Inc., New York Mills, N. Y., has been appointed to succeed Mr. Welch who has resigned because of ill health. Mr. Diamond has been Mr. Welch's assistant for 22 years.

R. Timothy Gibson, formerly print sales representative of Glen Lyon Print Works, is now associated in a similar capacity with the United Piece Dye Works, and will be located in New York as manager of print sales.

Betty Ruth Thompson, of Raleigh, N. C., a recent graduate of the N. C. State College Textile School, has accepted a position with the Burlington Mills, Greensboro, N. C.

Julian S. Bolick is now resident engineer for the Joanna Textile Mills Co., Goldville, S. C.

R. B. Vickers has been elected secretary and treasurer of New Braunfels (Tex.) Textile Mills, Inc.

W. V. Kirkland, for many years manager of the full-fashioned hosiery mill of C. H. Bacon Co., Loudon, Tenn., recently was made manager also of the other Bacon plant there, succeeding **Pete Littleton,** who recently joined the Army.

Alice Ten Eyck, for the last 3½ years with the fashion merchandising of "Crown" Tested rayon fabrics at J. M. Mathes, Inc., has joined the Advertising Department of the American Viscose Corp., where she will do market and promotional work in behalf of the new "Crown" Tested Plan.

J. E. Farrow is now acting superintendent of the bleachery at Russell Mfg. Co., Alexander City, Ala.

J. T. Sutton, principal of Woodside Grammar School, Greenville, S. C. has been connected with the Woodside Cotton Mills Co., where he will do personnel and community work.

C. W. Coons, director of vocational education in the Greenville, S. C., schools, has obtained a leave of absence to go with the personnel department of Riverside & Dan River Cotton Mills, Dan River, Va., to take charge of mill housing and maintenance.

B. J. Thompson has resigned as superintendent of the Rushton Cotton Mills, Griffin, Ga., to accept a position as superintendent of the Laurens (S.C.) Cotton Mills.

H. C. Tysinger has accepted the position of superintendent of the mechanical department of Dunson Mills, LaGrange, Ga., succeeding **A. A. Stone.**

E. L. SKIPPER

E. L. Skipper, lately manager of the Lancaster plant, has been made general manager of the Springs chain of mills, including the large Lancaster plant, three plants at Chester (the Eureka, Springstein and Gayle); two plants at Fort Mill, No. 1 and No. 2; and the Kershaw plant, all in South Carolina. Mr. Skipper, who has been with the company since 1914 and is a vice-president, will have supervision of 500,000 spindles and 14,000 looms. **C. L. Still,** for several years manager of the Fort Mills plants of the company, has become manager of the Lancaster plant. **D. L. Thomas** becomes manager of the Fort Mills plants. He was formerly superintendent of Fort Mill No. 1. **B. C. Baker,** formerly manager at Kershaw, becomes manager of the three Chester plants, succeeding **W. C. Summersby** who recently resigned. **J. D. Green** has been made superintendent at Kershaw.

D. W. Duncan has become assistant to the overseer of weaving at Gainesville (Ga.) Cotton Mills.

Roy Howell is now overseer of the cloth room at Monarch unit of Monarch Mills, Union, S. C.

C. R. Moore, formerly overseer of spinning at Harmony Grove Mills, Commerce, Ga., has resigned to become assistant superintendent of Gate City Cotton Mills, Atlanta, Ga.

J. N. Nelson has accepted the position of superintendent of Springfield (Va.) Woolen Mills Co.

W. J. Bond has become superintendent of Romac Yarn Mills, Memphis, Tenn.

N. P. Edge has resigned his duties with the Saco-Lowell Shops, and has become over seer of carding at Judson Mills, Greenville, S. C.

W. D. Wilkes has accepted position of overseer of carding and spinning at Saratoga-Victory Mills, Guntersville, Ala., and **W. L. Turner** has become

Speed Your Production . . .
Conserve Labor and Critical Materials...

WITH THESE
UNIQUE STARCH PRODUCTS!

WARP SIZING—

NALEX—for fine cotton yarns.
LANAMYL—for worsted yarns.
FIBERJEL V—for filament viscose yarns.
FIBERJEL SR—for spun rayon yarns.

FINISHING

FIBERTEX—for sheer, crisp finishes.
NAPO GUM—for full, weighty finishes.
SPUNJEL—for spun rayon finishes.

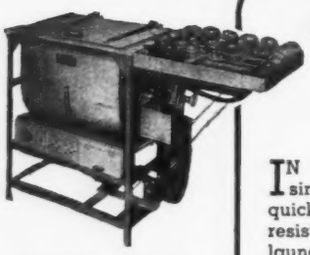
PRINTING

AMYLO—for cotton printing. (replaces Natural Gums.)
VAT GUM #11—for rayon printing.
AMBER GUM (Prepared)—for rayons and cottons.

All made from Domestic Raw Materials and available in Large Quantities.

NATIONAL STARCH PRODUCTS Inc.
820 GREENWICH STREET, NEW YORK

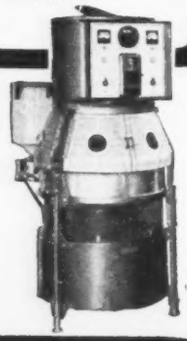
ATLAS-OMETERS



ACCELERATED TESTING EQUIPMENT

IN Atlas-Ometers you have a simple, easy way to learn, quickly, how your products will resist fading, or deterioration from laundering. Atlas-Ometers have been a valuable mainstay of the textile industry for over a quarter of a century. Their time-saving guidance is more essential right now than ever before.

LAUNDER-OMETER—Standard laboratory washing machine of the A. A. T. C. C.—measures resistance to washing action, shrinking, staining, color fastness to soaps and solvents. All factors carefully controlled—can be produced exactly at any time.

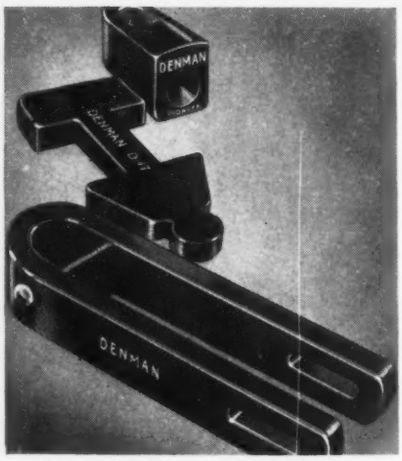


FADE-OMETER—Rotates specimens around the Atlas Enclosed Violet Carbon Arc, the closest approach to natural sunlight. Temperature automatically controlled.

WEATHER-OMETER—Duplicates effect of actual exposure—months of sun, rain, heat and cold condensed to a few days.

ATLAS ELECTRIC DEVICES CO.
371 W. Superior St., Chicago, Illinois

ATLAS-OMETERS
LAUNDER-OMETER • FADE-OMETER • WEATHER-OMETER



DENMAN

PICKERS LUG STRAPS HOLD-UPS

Lowest Cost Per Loom Per Year

The **Terrell Machine Co.,** *Inc.*
CHARLOTTE, N. C.

James F. Notman, Needham, Mass. . . . . N. E. States
E. W. S. Jasper, Inc., Elizabeth, N. J. Penn., N. Y. and N. J.
W. J. Westaway Co., Ltd., Hamilton & Montreal . . . Canada
Geo. Thomas & Co., Manchester, Eng. . . European Agents

NEWS ABOUT MEN

overseer of weaving at the same mill.

Alston H. Garside, who has been economist of the New York Cotton Exchange for the last 13 years, left the employ of the Exchange Oct. 1. He plans to continue to engage in cotton economic work.

N. A. Batchelder, for the last 20 years general manager of the Empire Cotton Mills, Welland, Ontario, has retired and is succeeded by **C. S. Cox** as plant manager and **J. S. Hall** as comptroller. Mr. Batchelder was born in Rhode Island and had a career among New England mills before going to Canada in 1922.

L. W. Green, Sr., has become general superintendent of Dora Yarn Mills, Nos. 1 and 2, Cherryville, N. C. He was formerly head of the carding and spinning departments of Highland Park Mfg. Co., Units No. 1 and No. 3, Charlotte, N. C.

Frank Gerry has been promoted to overseer of dry finishing in the M. T. Stevens Mills, Franklin, N. H.

J. O. Dunn is the new assistant superintendent of Hartwell (Ga.) Mfg. Co. He was formerly connected with Stone Mfg. Co., Greenville, S. C.

O. A. Sullivan, superintendent of Hartwell Mill No. 2, Toccoa, Ga., has resigned to accept a position with an Iva (S.C.) textile mill.

Robert Controy has resigned his position with the General Electric Co., Pittsfield, Mass., and assumed new duties as chief engineer of Skenandoa Rayon Corp., Utica, N. Y.

Jesse Wilbanks has become overseer of carding at Central (S.C.) Mills.

C. C. Jones has resigned as superintendent of Fickett Cotton Mills, Whitehall, Ga., and has been succeeded by **J. L. Teat.**

James D. Barbee is the newly appointed assistant superintendent of the Brookside Mills, Knoxville, Tenn.

T. E. Stone has become overseer of weaving at the Pineville, N. C., unit of the Chadwick-Hoskins Co.

Clinton M. Powell has accepted the position of resident manager of the Balston Yarn Mills, Lincolnton, N. C. He was formerly with Cannon Mills Co., as superintendent of the Cabarrus unit.

A. B. Brown, formerly night carder and spinner at Summit Yarn Mills, Lincolnton, N. C., has become night superintendent of Carter Mills of the same place.

J. N. Jones, formerly of Enoree, S. C., has become superintendent of Phenix Mills, No. 1 unit, Kings Mountain, N. C.

Stanley J. Wrubel has given up his position in charge of the drawing and spinning worsted department, Chaplain Mills of the American Woolen Co., at Winooski, Vt.

James D. Barbee has become assistant superintendent of Brookside Mills, Knoxville, Tenn.

Morris Zingler is the new superintendent of Belding Heminway Co., Bedford, Va.

Norman S. Welton, supervisor of the staple department of American Viscose Corp.'s unit at Nitro, W. Va., has been awarded a special monetary reward in recognition of outstanding work that resulted in a marked improvement in one of the company's products.

Frank Gurley has resigned as night superintendent of the Carter Mills, Lincolnton, N. C., and has accepted the position of night superintendent at the Firestone Cotton Mills, Gastonia, N. C.

R. L. Hulsey has resigned his position with Marlboro Mill, Bennettsville, S. C., and become superintendent of Mill No. 1, Bladenboro (N.C.) Cotton Mills.

Walter Beckwith has resigned his position with the mills at Franklinton, N. C., and has become superintendent of the mechanical department of Pilot Mills Co., Raleigh, N. C.

Roy Boiter, formerly superintendent of Jackson Mills, High Shoals, N. C., unit, and prior to that connected with the office of the Wellford, S. C., unit of the same company, has become a representative of Stodgill & Co., Atlanta, Ga., with headquarters in Gastonia, N. C.

George P. DeBrule, who has held the position of overseer of carding at the Olympia unit of the Pacific Mills, Columbia, S. C., has been promoted to assistant superintendent of the Granby unit of the same company. Mr. DeBrule is chairman of the carders and spinners division of the Southern Textile Association.

J. R. Daniel, overseer of twisting, winding and warping at the Tifton (Ga.) Cotton Mills, has resigned and accepted the position of night superintendent at the Jefferson Mill, No. 3 unit, Royston, Ga.

J. B. Shelton, formerly overseer of weaving at Brookside Mills, Knoxville, Tenn., has accepted a similar position with Riverside & Dan River Cotton Mills, Danville, Va.

Meet Wartime Production Demands with the QUALITY UNIFORMITY LOW HANDLING COSTS of Penn Salt

Caustic Soda

The urgency of wartime needs makes it more important than ever that you safeguard production by using caustic soda that is thoroughly dependable in purity and uniformity.

Penn Salt Caustic Soda is produced by a double purification process that makes it low in salt content, low in carbonates and extremely low in iron. Rigid manufacturing standards maintain the uniform quality of this superior caustic, shipment after shipment.

In aqueous solution, Penn Salt Caustic Soda is supplied in specially designed Tank Cars—equipped with protective lining, special draining plates and easily accessible fittings. Penn Salt Tank Cars deliver clean caustic soda that can be quickly, safely and completely unloaded . . . to cut handling time and costs and reduce waste.

You can get clean, pure, uniform Penn Salt Caustic Soda as 50% and 72-73% solutions in 8000-gallon tank cars; as a solid in 750 lb. drums; or in flake form in 400 and 100 lb. drums. Call on our technical staff for any assistance needed on handling problems.

Write for full information.

PENNSYLVANIA SALT MANUFACTURING COMPANY

Chemicals

1000 WIDENER BUILDING, PHILADELPHIA, PA.

NEW YORK • CHICAGO • ST. LOUIS • PITTSBURGH • WYANDOTTE • TACOMA

BY THE MAKERS OF JOHNSON'S WAX
. . . A WATER REPELLENT
TEXTILE FINISH

Formula 1860

Johnson's Water Repellent Textile Finish (Formula 1860) is a stable, aqueous emulsion of waxes and non-critical aluminum salts and emulsifying agents. Its use insures high spray and hydrostatic pressure tests. (It is also supplied with copper salts for mildewproofing if desired.) Formula 1860 does not change the color or "hand" of textiles. Nonflammable. May be used on vat or sulphur-dyed textiles. No objectionable odor. Acidity does not need regulation. Inexpensive to use. Supplied to meet Army Quartermaster Department specifications.

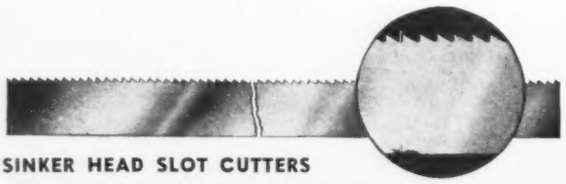
For free test sample and full information, write

S. C. JOHNSON & SON, INC.
Industrial Wax Division
Dept. T-102 Racine, Wisconsin

Opportunities...
TO IMPROVE YOUR PRODUCT
AND SAVE YOUR MONEY . . .

NARROWING CHAIN
Accurately made from high grade material—built to last and to hold its shape.

Send for bulletin giving full details on these and other products.



SINKER HEAD SLOT CUTTERS
The ideal tool for cleaning out slots in sinker and divider heads. Made in all gauges. Each one comes in a leather carrying case.

THOMAS & SKINNER
STEEL PRODUCTS COMPANY
1119 East 23rd Street Indianapolis, Indiana

Textile Men in Armed Services

Henry B. Thompson, Jr., for some years with McCampbell & Co. before entering the armed services early this year, has been promoted from rank of captain to major in the Army Air Corps. He is stationed in Washington.

Ridley Watts, Jr., who has been a member of the firm of Taylor, Clapp & Beall, New York, has been commissioned a lieutenant (senior grade) in the Naval Reserves. He has reported for active duty at the Philadelphia Navy Yard.

James W. Blewer, president of the National Association of Knitted Glove & Mitten Manufacturers, and vice-president of Royal Knit Glove Corp., Jamestown, N. Y., has been commissioned a lieutenant (senior grade) in the Navy and is now located at Newport, R. I.

William H. Miller of Crystal Hosiery Co. and Aberdeen Hosiery Mills, Aberdeen, N. C., has been commissioned a captain in Army Air Corps and reported for duty at Miami Beach, Fla.

James C. Kinnard, of William Whitman Co., New York, has been commissioned a captain in the Army and assigned to duty in the Office of Quartermaster General in Washington.

Adolph E. Hohenberg, of Memphis, Tenn., a past-president of the American Cotton Shippers Association, has been commissioned captain in the Army Air Corps and is now at training school at Miami Beach, Fla.

Charles Wolff, 3rd, who was called from the managership of the American Bemberg and North American Rayon Corp. plants at Elizabethton, Tenn., for active duty as major in the Army, has been promoted to lieutenant colonel.

Robert L. Cole, president and treasurer of the Hannah Pickett Mills, Rockingham, N. C., is now a first lieutenant in the U. S. Army.

Wm. H. Miller, co-owner of the Crystal Hosiery Co., Aberdeen, N. C., and an official of other mills, has been commissioned a captain in the Army Air Corps, and has gone to Miami, Fla., where he reported for duty. **Edward Meyer,** associated with Captain Miller in the ownership and operation of the Crystal Hosiery Co., will continue to operate the mill.

Luther M. McBee, Jr., an official of the Brandon Corp., Greenville, S. C., before entering the armed services, is a captain and has been named aide to Brig. Gen. L. L. Lenitzer.

SAMUEL J. PARKER, general sales manager of Ciba Co., New York, has been commissioned a major and reported for duty at Ft. Benning, Ga. He was an officer in world war No. 1 and served overseas. For gallantry in action at that time he has received the Congressional Medal of Honor. He is now on leave from Ciba Co.

J. C. Self, Jr., formerly connected with Greenwood (S.C.) Cotton Mills of which his father is president, is now in the Army and is attending a coast artillery training school at Fort Monroe, Va.

Bob Forney, for the last 10 years sales manager of Lily Mills Co., Shelby, N. C., is now with the Army Signal Corps and is stationed at Fort Monmouth, N. J.

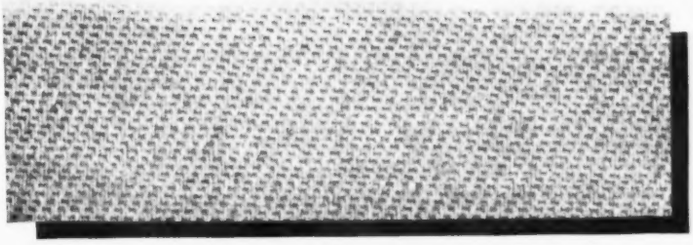
Cyril Sumner, Jr., formerly with Providence, R. I., office of American Viscose Corp., has been promoted from Second Class Machinist's Mate to Lieutenant, Junior Grade, in the Navy.

J. R. Foster, for several years advertising manager of Courtaulds (Canada) Limited, has taken a commission in the R.C.A.F. Mr. Foster is on leave of absence from his firm. **Muriel G. Whitlock** has been appointed acting advertising manager.

Major James E. Baker has been reassigned to the Procurement Division of the War Department in Washington, and is

Cut out for the job!

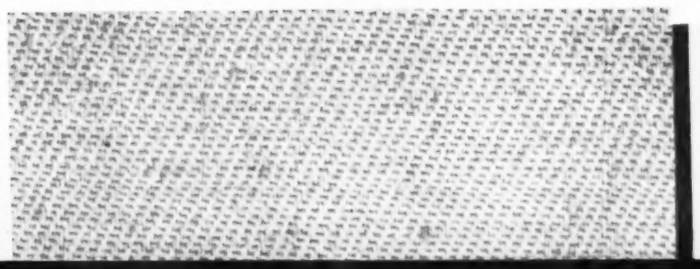
STALEY'S
TEXTILE STARCHES



Staley's CORN AND SOY BEAN PRODUCTS

Staley manufactures a complete line of unmodified and modified corn starches.

For any textile requirement ...the ANSWER IS STALEY'S



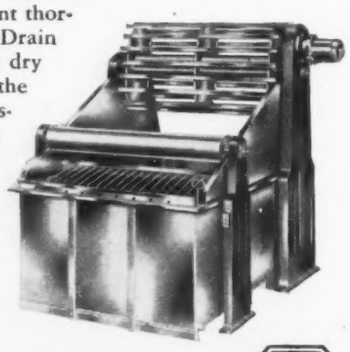
A. E. STALEY MANUFACTURING COMPANY
DECATUR ILLINOIS

ATLANTA, NEW YORK CITY, SPARTANBURG, CHICAGO, BOSTON

TO TEXTILE DYERS
DOING A WAR JOB
CLEAN EQUIPMENT
thoroughly and often

Keep war production moving by keeping your stainless steel equipment at top efficiency Regardless of the solution you use, clean your equipment thoroughly at least once a week. Drain it, wash with hot water and dry with an air hose, or brush the bottom as free of water as possible and then let it dry This is your duty under the all-out war production program.

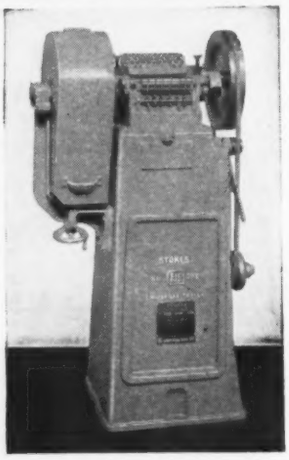
All orders subject to Government priority regulations



SPECIALISTS IN THE MANUFACTURE OF STAINLESS STEEL DYEING EQUIPMENT

S. BLICKMAN, INC.
EST. 1889
106 GREGORY AVE., WEEHAWKEN, N. J.

New! Universal Fibre Cutter



- **Makes 500 to 20,000 knife cuts per minute. Handles 4 to 8 tops or equivalent simultaneously.**
- **For cutting Rayon, Silk, Wool, Flax, Jute, Cotton, other Fibres—Wet or Dry.**
- **With 4 interchangeable cutter heads produces full range of fibres, from Flock to 8″ length.**

This is an improved machine, accurate, flexible, highly productive . . . for wet or dry cutting. Features include Self-sharpening Knives, Tension Release for Feed, Hand-wheel adjustments while operating, Ball Bearings, Balanced Heavy-duty Cutter Heads, Enclosed Motor, Clutch for quickly stopping feed rolls, Variable-speed drive synchronized with feed, and others. Fully described in Bulletin 42-FC.

F. J. STOKES MACHINE COMPANY
6004 Tabor Road Olney P. O. Phila., Pa.

F.J.Stokes FJS Est 1895

NEWS ABOUT MEN

now chief of the Textile Equippage Section where he is in charge of procurement of canvas and webbing fabricated articles and dyeing and finishing in general.

Robert R. Spilman, formerly president of Appalachian Mills Co., Knoxville, Tenn., is now a captain in the Army and is stationed at the Q.M. Depot in Philadelphia.

Julian Robertson, president and treasurer of the Erlanger Mills and North Carolina Finishing Co., Lexington, N. C., has reported for duty at Aberdeen, Md., with rank of major in the Army.

J. Ebert Butterworth, on leave of absence from H. W. Butterworth & Sons Co., Philadelphia, who has been connected with the Office of Export Control in Washington, D. C., with rank of colonel, has been assigned to service with the War Department in Washington where he will be with the Conservation Branch of the Procurement Division.

Howard West, formerly with Marshall Field & Co. and lately acting chief in the Woven Cotton Goods Unit of OPA, has resigned and accepted a commission as ensign in the Navy.

Hampton Daughtry, of McCampbell & Co., New York, is now captain in the Army Air Corps and on active duty at Miami Beach, Fla.

Maurice M. Matthews, of the sales organization of Cone Export & Commission Co., New York, has been commissioned first lieutenant in the Army and assigned to the Philadelphia Q.M. Depot.

Raymond F. Pierce, former assistant designer of Brunswick Worsted Mills, Moosup, Conn., is in the Marine Corps and has been assigned to the Quartermaster School, Toledo, Ohio.

Charles L. Harding, Jr., of Meinhard, Greeff & Co., New York, has been commissioned lieutenant (senior grade) in the Navy and assigned to the Bureau of Supplies & Accounts, Washington, D. C.

Edwin G. Eyerly, who recently resigned as manager of the Pile Fabrics Department of Stehli & Co., New York, has been commissioned a major in the Army Quartermaster Corps and is now on duty at Camp Lee, Va.

Blake L. Lawrence, member of the firm of Folkard & Lawrence, New York, is now a lieutenant-commander in the Navy, and has completed his training course at Quonset, R. I.

J. Fred Murray, of Turner Halsey Co., has reported for

STANLEY WHITEWAY, advertising manager of Proctor & Schwartz, Inc., Philadelphia, who has enlisted in the Signal Corps Reserve. He is shown in the uniform of the Pennsylvania National Guard.

active duty with the naval aircraft division of the U. S. Naval Reserve as lieutenant (senior grade). He is stationed in Philadelphia.

John Wilmerding, lieutenant (junior grade), U. S. Navy, formerly with the New York office of America Viscose Corp., has been reported to the Navy Department, Washington, D. C., by the commanding officer of his ship for outstanding performance in a naval engagement. Lieut. Wilmerding's report stated: "In directing the main battery we knocked down at least four planes and got plenty of direct hits on many other objectives."

Edward S. Tennent, Spartanburg, S. C., purchasing agent for a number of textile mills, has received his commission as second lieutenant in the Army Air Corps, and has reported at Wright Field, Ohio, to the contact and negotiations branch.

S. Reed Anthony, formerly of American Viscose Corp., Charlotte, N. C., office, and now lieutenant (junior grade) in the Navy, has taken his first test at Quonset, R. I., and passed number one man out of a class of 800.

J. I. Taylor, superintendent of the North American Rayon Corp., Elizabethton, Tenn., recently was commissioned a major in the Army supply service and has reported to Washington for special training.

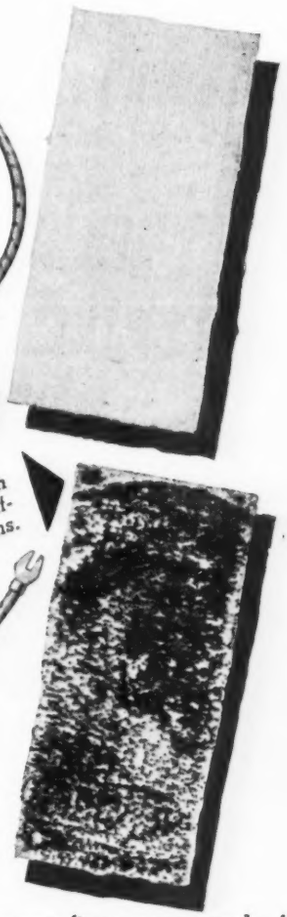
Albert M. Whitnant, Jr., assistant sales manager of Stonecutter Mills, Spindale, N. C., has entered the army and is now first lieutenant in the Army Air Corps and is stationed at Miami Beach, Fla.

Lawrence W. Rohan has left his position as overseer of carding in Andre Spinning Co., Pawtucket, R. I., to join the Army.

DOWICIDE

INDUSTRIAL GERMICIDES AND FUNGICIDES

TESTED PROTECTION FOR TEXTILE CABLE COATINGS!



Cable braid—free from mold growth—treated with DOWICIDE and exposed to same conditions.

Cable braid—NOT treated with DOWICIDE—covered with mold after exposure to normal conditions.

VARIETY OF FABRICS MADE MOLD RESISTANT

ELECTRICAL CABLE BRAID, requiring oil-soluble preservatives, is being given long-life protection against mildew and mold growth with DOWICIDE*. This powerful industrial germicide and fungicide—a phenol derivative, manufactured by The Dow Chemical Company, provides an economical and effective way of making this vital equipment last longer and give better service.

The same effective protection, against mildew and mold growth, that DOWICIDE gives to cable braids can be applied to a wide variety of fabrics. When DOWICIDE is used in the water-proofing compounds for application to cellulosic fibers it provides the best protective measure known. Thus effective mildew and rot-proofing of canvas and other cellulosic products becomes a simple as well as an economical procedure.

Special literature on this subject of protection for textiles is available. Let us send you the *complete* story about DOWICIDE—the Dow product that gives longer life to fabrics.

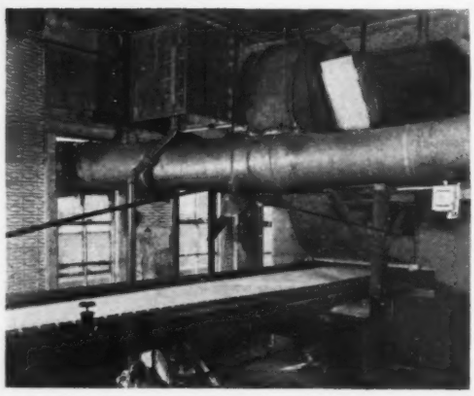
*Trade Mark Reg. U. S. Pat. Off.

DOW

THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

New York · St. Louis · Chicago · San Francisco · Los Angeles · Seattle · Houston

INFRA RED-RAY SPEED DRYING



Investigate the modern Red-Ray method of speed drying—TODAY.

2 to 5 TIMES FASTER

RED-RAY MANUFACTURING CO.

Manufacturers of Infra-Red Ray Combustion Equipment

455 WEST 45th STREET NEW YORK, N. Y.

TEXTILE LEATHER PRODUCTS

It takes more than a desire to be a champion. It takes a lot of knowing how—specialization and originality.

Champion Textile Leather Products are aptly named—we specialize in the practical solution of problems pertaining to textile leathers.

CHAMPION

W. D. DODENHOFF COMPANY

619 RUTHERFORD STREET

GREENVILLE, SOUTH CAROLINA

Obituary

C. E. HUTCHISON

Charles Egbert Hutchison, 81, a pioneer textile manufacturer and dean of the combed yarn industry, died in Charlotte, N. C., Oct. 1. He was president and treasurer of American Yarn & Processing Co., Mount Holly, N. C., and past-president of ACMA and North Carolina Cotton Manufacturers Association. He organized and built the Nims Mfg. Co. in 1892, the Woodlawn Mfg. Co. in 1906, and later the Adrian, the Dora and the American. These five were consolidated into American Yarn & Processing Co. He served on the board of directors of the Southern Combed Yarn Spinners Association for many years.

Micajah R. Reeves, 65, president of Reeves Bros., New York, died Sept. 7. Mr. Reeves was a native of North Carolina and came to New York in 1901 with the old Hunter Mfg. & Commission Co., of which his brother was president for many years. M. R. Reeves left Hunter in 1917 to establish a gray goods department with the firm of Harding, Tilton & Co. In 1919 he formed the firm of Reeves, Jennings & Co., which took the present name of Reeves Bros. a year or two later. Mr. Reeves was also president of the Mills Mill, Greenville, S. C., and of the Fairforest Finishing Co., Spartanburg, S. C. He was on the board of directors of Osage Mfg. Co., of Grace Cotton Mill Co., and of Warrior Duck Mill.

Myron E. Wood, 68, president of the old U. S. Worsted Co. from 1922 to 1927, and associated in recent years with the Dartmouth Mills, New Bedford, Mass., died in New Bedford Sept. 1.

Frank Murchamp, 52, superintendent of the viscose plant of Tubize Chatillon Corp., Rome, Ga., with which he was affiliated for 13 years, died recently.

Rene Robert Salembier, 60, former secretary and treasurer of the Institute of Dyeing and Printing, Paterson, N. J., died in Paterson Sept. 12. He was for some years with A. D. Juilliard & Co., and later operated his own company, Salembier & Clay, Inc., of which he was president until his liquidation in 1928. He retired in 1935.

George B. McCallum, 66, president of Propper-McCallum Hosiery Co., Northampton, Mass., died Sept. 22. He was son of the founder of the McCallum company, which he joined in 1897. The firm merged with the Propper Co. in 1929.

Hugh McConnell, 49, president and general manager of Hampton Co., Easthampton, Mass., and of the Hampton Spinning Mills, Clover, S. C., since 1938, died Sept. 21.

Dan C. Lawrence, 70, Sanford, N. C., president of the Seaboard Mills, died Sept. 16.

Hugh Mackay, 66, vice-president of Wabasso Cottons Co., Ltd., Montreal, Quebec, died recently in that city.

Mrs. Fannie Fanta, 69, widow of Theodore, a co-founder of the Blue Star Knitting Co., Milwaukee, and the inventor of the Vanta-Vest and other infants' garments, died Aug. 27.

Edward W. Nesbitt, 86, one of the founders of the Harvey Knitting Co., and Hosiers, Ltd., both of Woodstock, Ont., died recently at his home in Woodstock.

LeRoy Daniell, 52, treasurer of Brighton Mills, Inc., Shannon, Ga., died Sept. 7 at a hospital in Rome, Ga.

Sylvester G. Frederick, 65, for many years a yarn salesman for American Silk Spinning Co., Providence, R. I., died Aug. 26 at his home in Reading, Pa.

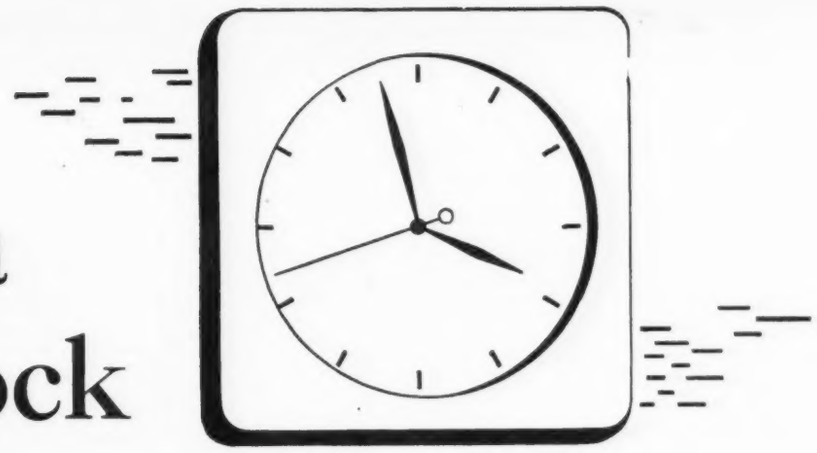
James F. Gahan, who came to Dutton, Ont., 50 years ago to take over the old Dutton Woolen Mills, died recently.

Frank M. Dwyer, for many years a member of the sales force of the Bigelow-Sanford Carpet Co., died Aug. 31 in St. Louis. He was in the carpet business for 48 years.

James A. Macdonald, with Arlington Mills, Lawrence, Mass., for 50 years, and lately general manager until his re-

(*Continued on page* 154)

This is a Clock



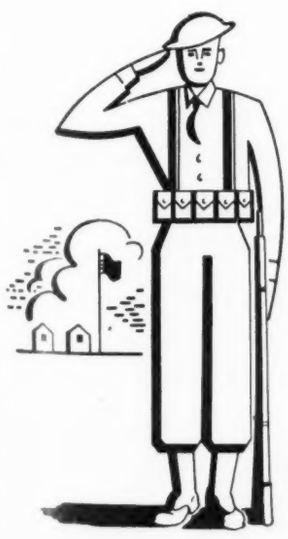
That relentlessly ticks off the seconds—minutes—hours —that mean *speed, speed, speed* in America's war effort.

This is a drop of Yarmor* 302-W Pine Oil

That is making each second count in key textile processing operations. It is cutting fulling time as much as 30%, besides doing an efficient job in kier boiling and as a dye assistant.

This is a Hercules Chemist

Who is backing up America's war effort by developing new, improved chemical materials—who, besides developing Yarmor 302-W, has just succeeded in producing synthetic pine oil, to help produce many more yards of cloth, many more minutes faster than ever before.



And this is the Soldier

Representing our rapidly growing armed forces—who is a living tribute to the textile industry in making him the best and most comfortably dressed soldier in the world—all in record time.

NAVAL STORES DEPARTMENT

HERCULES POWDER COMPANY

Incorporated

994 MARKET STREET • WILMINGTON • DELAWARE

Branch Offices: Chicago • New York • St. Louis • Salt Lake City • San Francisco

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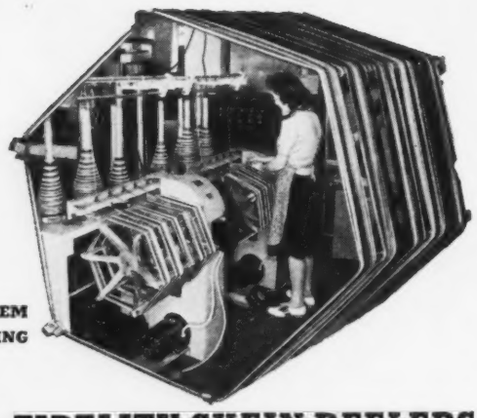
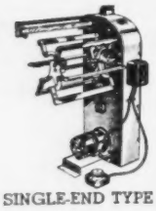
*Reg. U.S. Pat. Off., by Hercules Powder Company



FIDELITY
TWIN-UNIT SYSTEM OF SKEIN REELING
TWO TYPES

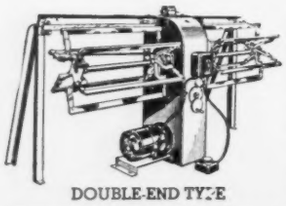


SINGLE-END TYPE

FIDELITY SKEIN REELERS
***Speed* Production with**
30- to 50-second doffing cycle

So that production of odd and regular lots of yarn that require special treatment may be speeded . . . FIDELITY offers a time- and labor-saving method of skein reeling.

The Twin-Unit System—30- to 50-second doffing cycle—keeps operators continuously occupied, with less operator fatigue, with work that counts for production...namely, the taking off of finished skeins and the starting of new ends. No wait for winding. Short reels, each with a free end, make doffing easier and faster . . . results—new high rates of output at lower costs. *Write for Bulletin.*



DOUBLE-END TYPE

FIDELITY MACHINE COMPANY
3908-18 Frankford Ave., Philadelphia, Pa.

Why Not? *Have Your Personal Accident and Sickness Insurance with . . .*

EASTERN COMMERCIAL TRAVELERS

Mutual Association • No Branch Offices

MASSACHUSETTS CO., INC. 1894

Insure Your Earnings . . . Protect All!

ACCIDENT POLICY PAYS		SICKNESS POLICY PAYS	
ACCIDENTAL DEATH $5,000-$10,000	WEEKLY DISABILITY $25.00-$50.00	$25.00 Per Week for Confining Sickness	$10.00 Per Week for Non-confining Sickness
Estimated Annual Cost $15		Estimated Annual Cost $20	

PAYS WHILE YOU ARE LAID UP
PAYS FROM THE FIRST DAY OF DISABILITY
48 YEARS OF UNFAILING SERVICE

No Policy Cancelled, Rates Increased, or Benefits Reduced on Account of Any Age!

SEND THE COUPON TODAY

John S. Whittemore, Sec.-Treas.
Eastern Commercial Travelers
80 Federal St., Boston
Without obligation, please send complete information and application for membership to

Name.....

Address.....

City..... State.....
T.W.-42

TEXTILE MILL NEWS

Cotton Mill News

Androscoggin Mills and **Hill Mfg. Co.,** both Lewiston, Me.; **York Mfg. Co.,** Saco, Me., and **Edwards Mfg. Co.,** Augusta, Me., all operated as units of New England Industries, Inc., Augusta, are arranging financing each in amount of $500,000 for general working capital, improvements, etc. **Bates Mfg. Co.,** Lewiston, similarly affiliated and controlled by same company noted, is planning for a security issue of $1,000,000, for like purpose.

Bagpipe Mills, Inc., Laurinburg, N. C., recently organized, will engage in the manufacture of osnaburgs and agricultural bags, with a capital stock of $30,000. The company has 1,224 spindles and 40 looms.

Carolina Insulating Yarn Co., Winston-Salem, N. C., is a newly organized concern with a capital stock of $41,500. This is a unit of the Carolina Narrow Fabric Co.

Chadwick - Hoskins Co., unit No. 4, Charlotte, N. C., has completed installation of long-draft spinning equipment throughout the spinning department.

Columbia Mfg. Co., Selma, Ala., has closed bids on general contract for one-story addition to cotton mill at Uniontown, near Selma, reported to cost over $25,000, with equipment. Contract will be awarded soon. Robert & Co., Atlanta, Ga., are architects and engineers.

Dundee Mills, Inc., Griffin, Ga., is the name of the former Georgia-Kincaid Mills. The change in name was effective Sept. 1.

Eagle & Phenix Mills, Columbus, Ga., has absorbed the Bradley Mfg. Co., and is taking over such machinery as it can effectively use. This includes 75 60-in. looms.

R. W. Eldridge Co., Charlotte, N. C., manufacturers of handkerchiefs for the last 15 years, has been incorporated.

Hannah Pickett Mills, Rockingham, N. C., have changed all machinery over to long-draft.

North Carolina Textile Institute, Wilkinson Boulevard, Belmont, N. C., is expected to be ready for operation in January, 1943. The institute will be for the purpose of giving complete training in textile mill operation, from the machine shop to weaving. This type of skilled labor is expected to be in urgent demand before the war is over.

Powdrell & Alexander, Inc., Danielson, Conn., reports a net profit for six months of 1942 amounting to $141,504 after taxes. Net profit for the corresponding six months of 1941 totaled $128,052. Net sales for the six months of 1942 totaled $4,500,295, an increase of 31% over sales for the corresponding period of the previous year.

Proximity Mfg. Co., Greensboro, N. C., has awarded the contract for the building of a billion-gallon water reservoir on Richland Creek, to furnish water for the mills in this chain.

M. M. Rudisill, Lincolnton, N. C., is equipping the building at Naples, N. C., formerly the Biltmore Hosiery Mills, for a small yarn mill.

J. C. Sanders Cotton Mill Co., Inc., Mobile, Ala., is arranging for priority rating for rebuilding of mill at Prichard, near Mobile, recently destroyed by fire (previously reported), with loss totaling over $350,000. Work is scheduled to begin at earliest possible date.

Spinners, Inc., Lowell, N. C., recently organized, have taken over local mill and assets of Norlina Cotton Mill, Inc., and will succeed to that company. Plant will continue in operation as heretofore for specialty yarn production. J. P. Sanders is president of new company; R. J. Hooker, treasurer; and J. Lander Gray, Jr., general manager and mill superintendent.

Standard - Coosa - Thatcher Co., Chattanooga, Tenn., plans construction of a large brick addition.

Union Cotton Mills, Maiden, N. C., a unit of American Yarn & Processing Co., Mount Holly, N. C., will install equipment at once in two new mill units recently completed (previously reported), comprising 10 new Saco-Lowell carding machines, several Saco-Lowell twisters and auxiliary equipment. New installation is expected to be ready for service at early date.

Warrior Duck Mills, Spartanburg, S. C., organized several months ago for the manufacture of ducks for the Army, have 101 looms.

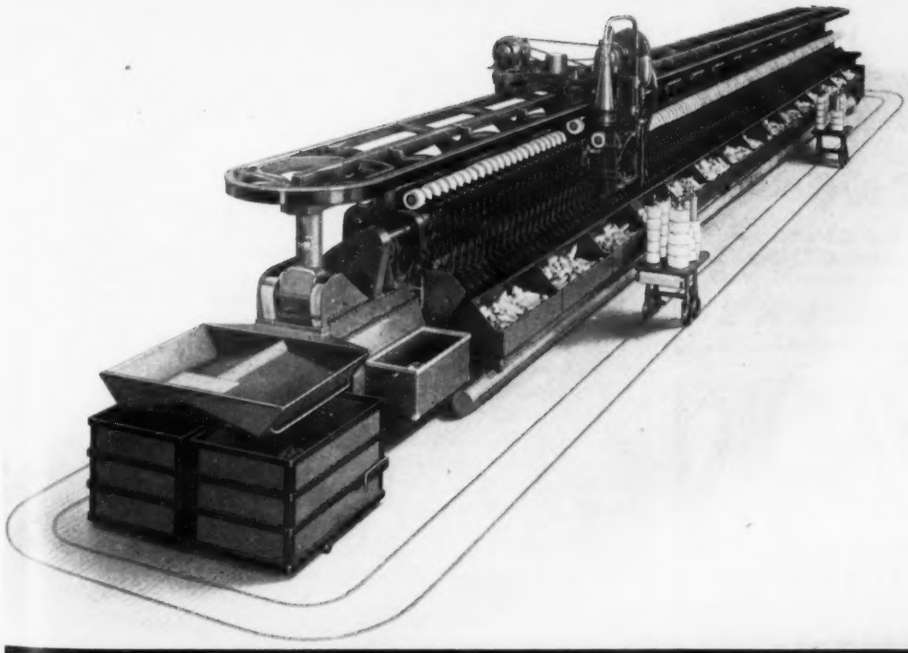
Wovencraft, Clinton, Mass., has purchased 30 looms from the Atlas woven label plant at auction.

DAY AND NIGHT...

...the work goes on. This recent photograph of one part of the Barber-Colman Plant typifies that spirit which has altered our usual working and sleeping hours, to the end that productive capacity may never be idle.

FOR MORE WAR MATERIEL

Barber-Colman Plant Works Day and Night, to Meet Increasing Needs for B-C Products in War Materiel Production



AUTOMATIC SPOOLER

One of the Barber-Colman Products used in war materiel plants, to speed the processing, lower the production cost, and maintain the quality of needed fabrics of many kinds. The manufacture of parts for these machines goes forward on a full time schedule.

BARBER-COLMAN COMPANY

ROCKFORD, ILLINOIS, U. S. A.

FRAMINGHAM, MASS., U. S. A. • GREENVILLE, S. C., U. S. A. • MANCHESTER, ENGLAND • MUNICH, GERMANY

GLYCERIN

is rationed. If you are a user of glycerin as a hygroscopic agent, you should try our new

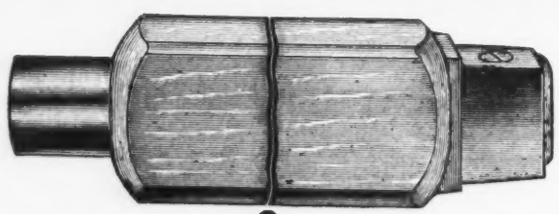
CORPOLIN

which is almost twice as effective as glycerin. It is a heavy, colorless and odorless liquid, non-volatile and non-inflammable. It is

AVAILABLE

without preference rating. Makes gums swell, exerts smoothing effect on starch paste, prevents gelatine and glue from gelatinizing.

THE AKTIVIN CORPORATION
50 Union Square, New York, N.Y.



C

DYE STICKS

Since 1900 we have made high quality true-form oven-seasoned dye sticks for all standard machines. We can fill your needs today to meet any requirement. Write

FRANK BAILEY **Cedar Brook, N. J.**

NOVELTY-YARNS
For
WEAVERS-KNITTERS

MONTGOMERY
WINDSOR LOCKS, CONN.
Designers and Spinners of Novelty Yarns

Wool Mill News

American Felt Co., Glenville, Conn., has work under way on alterations and improvements in mill, for which general contract recently was awarded to Mertz Co., Port Chester, N. Y. Same contractor recently received a similar award for alterations and improvements in one-story building for company at Greenwich, Conn., for storage.

William Looser & Co., Toronto, has taken over the plant in Owen Sound, Ontario, formerly operated by the Northern Textiles, Ltd. Plant is operating under the name "Owen Sound Woolen Mill."

Rockfall Woolen Co. property at Middletown, Conn., has been sold to Continental Textile Printing Corp.

Saltex Looms, Inc., Bridgeport, Conn., has begun construction of one-story addition, about 30 x 30 ft., for storage service, for which general contract recently was let to J. L. Simpson, 41 Putnam St., Bridgeport.

Alexander Smith & Sons Carpet Co., Yonkers, N. Y., is operating on a capacity schedule in duck department for production for Government. Company also is advancing output in woolen blanket division.

Stillwater Worsted Mills, Inc., Harrisville, R. I., registered the issue and sale of 60,000 shares of common stock, 30,000 shares of producers common stock and 30,000 shares of preferred stock. The company will take over the operation of the Stillwater Worsted Mills as reported last month. All common stock, which is $10 par, will be offered to a group of 30 executives and key employes now holding shares of producers common stock of the old company. No preferred will be sold except upon conversion of producers common shares. Proceeds are expected to aggregate $700,000. It is planned to borrow $750,000 from the old company and to utilize the $1,450,000 in transfer of assets.

Talcottville (Conn.) Mills—Charles S. House, Manchester, Conn., has been appointed permanent receiver of Talcottville Mills, Inc. He has been temporary receiver since Richard J. Steffens, a stockholder, brought action against the company Aug. 14. The court appointed Frederick Mullen of T. P. Mullen Co., Stafford Springs; and Louis Pemstein, Worcester, Mass., as appraisers.

Theresa Woolen Co., Inc., has been organized in Los Angeles county, with a capital of $25,000. It is represented by Norman Soibelman, 608 South Hill street, Los Angeles, Calif.

Rayon & Silk Mill News

Belding Heminway Co., silk and rayon, reports first six months earnings in 1942 amounting to $297,593, compared with $303,552, for the corresponding six months of 1941.

Burlington (N. C.) Mills Corp. is arranging additional immediate financing through issue of 50,000 shares of preferred stock, $2.50 series, proceeds to be used for addition to working capital, general operations and possible future expansion.

Courtaulds, Ltd., reports net profit after taxes of £1,351,048 for 1941, compared with £1,526,584 for 1940 and £1,581,255 for 1939.

Duplan Corp. reports net profit after taxes, etc., for fiscal year ended May 31, 1942, of $454,027, compared with $297,970 for previous year.

Tweedy Silk Mills, Inc., Danbury, Conn., has been taken over by the Navy Department and sold to the Barden Corp., an affiliate of Carl L. Norden, Inc., manufacturers of precision instruments and the Norden bombsight. Machinery equipment of the Tweedy company has been sold to Bridgeport (Conn.) Fabrics, Inc. Plans for conversion of the plant for war work are now under way.

John C. Welwood Corp., New York, N. Y., has opened a new branch mill for ribbon manufacture in one-story industrial building at Hope (Warren County), N. J., recently secured under lease. About 25 persons will be employed for initial operations.

Knitting Mill News

Burson Knitting Co., Rockford, Ill., has filed plans for alterations and improvements in mill at 610-16 Race St., and will carry out work at once. No estimate of cost given.

Canadian U. S. Knitting Co., St. Hyacinthe, Que., has plans nearing completion for new two-story addition, about 32 x 65 ft., estimated to cost close to $40,000, with equipment. Ross & MacDonald, Montreal, Que., are architects.

Hildebran (N. C.) Hosiery Mill is a newly established half-hose mill. Company operates 70 176-200 needle Scott & Williams HH reverse machines, and dyes and finishes its hosiery product as well.

Miller-Smith Hosiery Mills, Chattanooga, Tenn., have discontinued operations at branch mill at Delano, Tenn., and will concentrate production with branch mill at Etowah, Tenn., where equipment will be trans-

Trail Blazers

THOUGH their outward aspect may change with time, the primary function of trail blazers remains the same, — to prepare the way for others to follow.

Ahcopel water repellent is now being used extensively for military fabrics for uniforms, tents, camouflage, webbing, sleeping bags, parachute cord, etc., but it is NOT a "war baby". Not only was it born long before this war; it was actually a "trail blazer" among American water repellents, being one of the first products of its type developed in this country. It passed inspection by John Q. Public long before it met the critical approval of Uncle Sam.

Ahcopel is an emulsion (mildew proof, if desired) for single bath application in a quetch, padder, jig or beck. The formula is NOT standardized to please us, but is varied to suit YOUR particular requirements.

Tell us your water repellent problem and let us send you a sample.

ARNOLD, HOFFMAN & CO., INC.
Established 1815 • Plant at Dighton, Mass.
PROVIDENCE, RHODE ISLAND
New York • Boston • Philadelphia • Charlotte

Ahcopel

A WATER REPELLENT FOR MILITARY OR CIVILIAN FABRICS

We want you to try it—because Drummond has all the qualities you look for in a fine textile soap . . . . A high-body product of low alkali content . . . . No filler of any kind . . . . A high binding quality that results in minimum flocking . . . . Saves on steam and water because it rinses easily and completely . . . . Better fulling and scouring . . . . Leaves fabric perfectly clean with softest feel, better hand, brighter colors and whiter whites . . . . Want to try it? Just write us today for a free working sample and test Drummond Soap on your own goods.

OTHER HIGH GRADE
"STANDARD" PRODUCTS
Stanso Palm Oil Curd Soap, Etc.

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Charlotte, N. C.
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★ ★

J. E. SIRRINE & COMPANY
GREENVILLE
SOUTH CAROLINA

Engineers

INDUSTRIAL PLANTS • PAPER MILLS • TEXTILE MILLS • PLANS AND DESIGNS
STEAM UTILIZATION • TOBACCO FACTORIES • KNITTING MILLS • LOCATION STUDIES
APPRAISALS • REPORTS • WATER TREATMENT • WATER SUPPLY • SURVEYS • POWER

★ ★

Coming in

JUNE 1943

TEXTILE WORLD'S

75th Anniversary

Number

ferred and expansion carried out. Company will continue present branch mill at Kingsport, Tenn., as heretofore.

Mason Knitting Co., Acton, Ont., has preliminary plans under way for addition to mill, reported to cost $45,000, including equipment.

Newton (N. C.) **Knitting Mills** has installed 40 additional Banner wrap machines for men's half hose.

Pacolet Knitting Co.'s buildings, Lynn, N. C., have been leased for the manufacture of tent cloth, belts and parachute straps for the Government.

Pagoda Knitting Mills, Reading, Pa., have been granted permit to erect two small additions to their mill.

Ragan-Parker Knitting Co., Ellerbee, N. C., is now owned and operated as a unit of Commonwealth Hosiery Mills, Randleman, N. C.

Real Silk Hosiery Mills, Indianapolis, Ind., reports net sales for first six months of 1942 of $4,882,612, compared with $4,572,071 in first half of 1941.

Robbins Knitting Co.'s building, High Point, N. C., has been sold to the Peerless Veneer Co., at a price of more than $20,000. This knitting company discontinued business around six years ago.

Robinson Mfg. Co., Elizabeth City, N. C., recently organized, has taken over and consolidated Elizabeth City Cotton Mills and Elizabeth City Hosiery Co., heretofore affiliated organizations, with Charles O. Robinson, heading both organizations. Mr. Robinson is president of new company, and Charles O. Robinson, Jr., treasurer. Both mills will continue in operation as heretofore.

Russell Hosiery Mill, Star, N. C., has begun operations on children's and misses' anklets after having moved its knitting machinery from Candor, N. C., and absorbed the Star Finishing Co., Inc. The mill does dyeing and finishing, also.

Southland Hosiery Mills, Greensboro, N. C., will soon complete an addition to its dyehouse.

Team Knitting Mills, 79 East 130th St., New York, N. Y., have leased space in building at 1938 Park Ave., and will occupy for plant, expanding present capacity.

Vanity Fair Silk Mills, Reading, Pa., manufacturers of knit gloves, mittens and underwear, has changed its name to Vanity Fair Mills, Inc., for the manufacture of textiles. In connection with its work on parachutes the company has leased an additional building for storage and shipping.

Wallace Knit Sportswear Co., Boston, Mass., has filed notice of organization to operate a local mill. Leo Wallace, 247 Columbia Rd., Dorchester, Boston, is head.

Washington Mills Co., Mayodan, N. C., has completed an addition to the dyeing department of the underwear unit.

Processing Plant News

Apponaug (R. I.) **Co.** reports net profit after taxes and depreciation for year ended June 30, 1942, of $252,634, compared with a net loss of $91,885 for the year previous.

Boston Textile Finishing Co., Weymouth, Mass., had a fire recently at their plant on Cottage Street. Barry Gibson, foreman, announces that plans are being made to repair the damage at a cost of $10,000.

City Screenprint Corp., New York, N. Y., recently organized, care of David H. Feldman, 292 Madison Ave., New York, attorney and representative, plans early operation of local textile printing mill.

Lynn Dyeing & Finishing Co., Inc., Paterson, N. J., recently organized with capital of 1000 shares of stock, no par value, care of David G. Smith, 5 Colt St., Paterson, attorney and representative, plans operation of local dye and finishing mill for rayons, etc.

Mowry Finishing Co.'s plant, Glastonbury, Conn., remained unsold last month when bids ranging up to $15,000 were declared unsatisfactory by the auctioneer, Bernard Magrill of Brooklyn, N. Y. Much of the machinery, however, was sold. Property was taken over by RFC three years ago.

Newport Finishing Co., Coventry, R. I., is reorganizing under Chapter X proceedings. A creditors committee was appointed Sept. 15, but the company was not ready at that time to submit a plan.

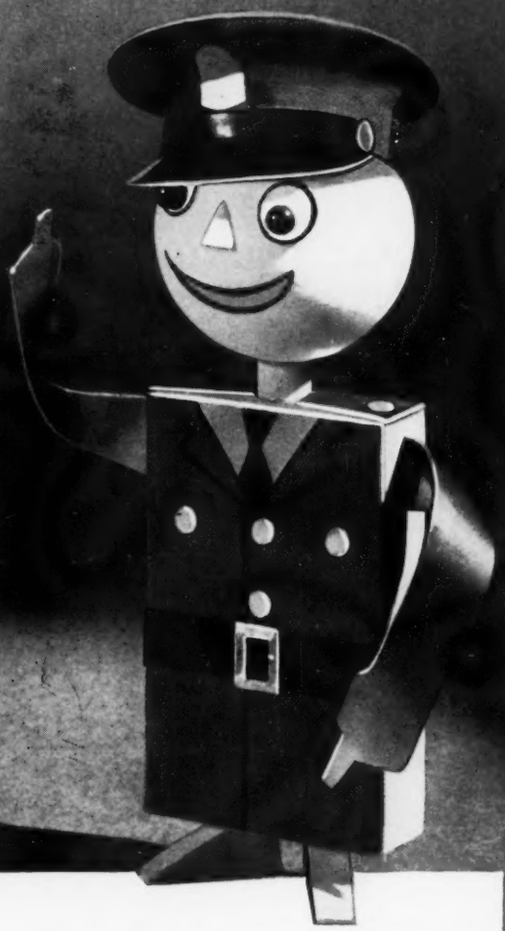
Penn Bleach & Dye Works, Philadelphia, Pa., operated by Textile Service Co., has concluded arrangements for purchase of Martex Mills buildings at Huntington and Jasper Sts., now occupied in part under lease. Property has been owned by West Point Mfg. Co., and consists of a number of buildings with total of about 100,000 sq. ft. of floor space. New owner will develop for permanent occupancy.

San Toy Dyeing Co., Inc.,

Clearer-Brighter-Better Light-Fastness

WHEN VAT-DYED GOODS ARE SOAPED WITH

Modinal D*



MILLS busy on Army goods will benefit from our case histories and working formulae. Military colors —the khaki, olive, and green shades— are improved with Modinol D.

This double-strength detergent can be used in jigs and continuous open soapers. Six major benefits are:

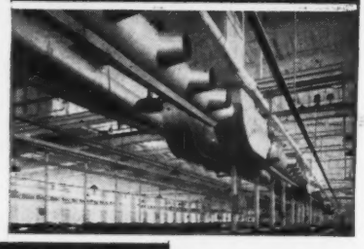
1. Light fastness and clarity are improved.
2. Modinal D soaping reduces costs.
3. Scum from chrome precipitate is avoided.
4. Soap accumulation on Sanforizer blanket is cut to a minimum.
5. You do not have to rinse out Modinal D.
6. No odor or yellowing develops to mar results.

SAVE TIME. During these days, when you are pushing production to the limit, problems are bound to come up. Don't let them waste your time. Ask one of our experienced technical men to help you find the answer. Gardinol Corporation, General Offices, Wilmington, Del. Sales Agents: Procter & Gamble, Cincinnati, Ohio - E. I. du Pont de Nemours & Co. (Inc.), Wilmington, Delaware.

*"MODINAL" *is the trade-mark used by the Gardinol Corporation to designate a group of its fatty alcohol sulfates.*

MODINOL D *Fatty Alcohol Sulfates*

WHITMAN YARNS
WORSTED • COTTON • SPUN RAYON
ARLINGTON MILLS
LAWRENCE, MASS.
•
MONOMAC SPINNING CO.
LAWRENCE, MASS.
•
NONQUITT MILLS
NEW BEDFORD, MASS.
WILLIAM WHITMAN COMPANY, INC.
NEW YORK BOSTON PHILADELPHIA CHARLOTTE

AIR CONDITIONING
HUMIDIFYING
ATOMIZERS
UNIT SYSTEM
CENTRAL STATION
AIR FILTERS
HEATING
COOLING
ENGINEERS—EQUIPMENT FOR THE TEXTILE INDUSTRY

Bahnson System
AIR CONDITIONING ENGINEERS
THE BAHNSON CO. WINSTON-SALEM, N. C.
For 25 years we have been successfully solving the air-conditioning problems of the Textile Industry.

Testers for War Essentials
100% of our production goes to firms making essential goods. For your war work, we offer 60 models of *Scott Testers for tensile, burst, hysteresis, flexing, crepeage, twist, etc., plus careful counsel in the use of Testing and Testers.
SCOTT TESTERS
* Registered Trademark
HENRY L. SCOTT CO. 95 Blackstone St. Providence, R. I.

Paterson, N. J., care of Emanuel Shavick, 140 Market St., Paterson, attorney and representative, has been organized with capital of 1000 shares of stock, no par value, to operate a local textile dyeing and finishing mill.

Miscellaneous Mill News

Fraser Valley Fiber Flax Co-operative Association, Surrey, B. C., recently organized, has plans under way for new one-story mill, reported to cost close to $45,000, including equipment.

General Fiber Products Corp., Los Angeles, Calif., recently organized, care of Herman L. Joachim, Chamber of Commerce Bldg., Los Angeles, engineer (previously reported), will soon begin erection of new mill near Phoenix, Ariz., for production of textile fibers for rope and cordage manufacture, using leaves of yucca plant for raw material. General erection contract has been let to C. T. & W. P. Storer, Claremont, Calif. Several one-story mill units will be erected for processing, general production, storage and distribution, with cost reported close to $200,000, including machinery. Completion is scheduled early in 1943.

Harrisburg (Ore.) Flax Co. is considering early rebuilding of two mill units recently destroyed by fire, with loss reported about $27,000. Harold Edward is manager.

Northwest Flax Products Co., Irving, Ore., plans one-story scrutching and retting mill, reported to cost over $40,000, with equipment.

Penacook Fiber Co., Inc., Boscawen, N. H., manufacturer of textile fibers, is considering plans for rebuilding of mill recently destroyed by fire, with loss totaling over $65,000.

Raybestos Co., Ltd., Perry St., Peterborough, Ont., manufacturer of asbestos fiber products, has awarded general contract to Eastwood Construction Co., Peterborough, for one-story mill addition. Cost reported over $30,000, with equipment.

Salem, Ore.—Oregon State Penitentiary, Salem, is considering early rebuilding of portion of flax mill and warehouse, recently damaged by two fires, with total loss reported in excess of $75,000.

Western Canada Cordage Co., Ltd., 20 Walter St., Vancouver, B. C., has preliminary plans under way for new spinning mill at Surrey, vicinity of Vancouver, consisting of a main one-story structure and several adjoining buildings for storage and auxiliary service. Cost reported close to $90,000, with equipment.

OBITUARIES

(*Continued from page* 146)

tirement in 1940, died Aug. 20 at his home in Methuen.

Richard P. Borden, 77, president and director of Richard Borden Mfg. Co., Fall River, Mass., died Sept. 23. He was active in local philanthropies and textile affairs.

Samuel J. Anderson, 56, superintendent of H. C. Townsend Cotton Mills, Anderson, S. C., died Sept. 10.

Eldridge T. Zimmerman, 59, assistant superintendent of Mills Mill, No. 2 plant, Woodruff, S. C., died Sept. 11 at his home there. He had been with the Mills Mill organization for 30 years.

J. M. Dye, for 42 years superintendent of the mechanical department of the Spartan Mills, Spartanburg, S. C., died recently.

Edward P. Hullings, 57, founder and president of the Northampton Textile Co. and Eagle Dyeing & Finishing Co., Mt. Holly, N. J., and of the Southampton Textile Co., Emporia, Va., died Sept. 13. Mr. Hullings was awarded a plaque as the outstanding citizen of Mt. Holly in 1940.

J. Frederick Schoelkopf, 84, a developer of the domestic aniline dye industry, died recently at Lake View, N. Y. He was formerly president of the Schoelkopf Aniline & Chemical Works and of its successor the National Aniline & Chemical Co.

Leonard B. Heinzemann, 44, superintendent of Cliffside Dyeing Corp., Paterson, N. J. died recently.

Albert T. Van Loan, Sr., 56, former president of Norwalk Lace Mfg. Co., died recently in Darien, Conn.

Frederic W. Freeman, former general manager of the Aetna Mills, Watertown, Mass., died recently.

William H. Bitting, 43, superintendent of Mays Knitting Mills, Nashville, Tenn., died recently.

Ben Kasischke, treasurer of Cooper, Wells & Co., St. Joseph, Mich., died Sept. 15 after being struck by an automobile two weeks previous. He was with the firm for 35 years, working up to credit manager and treasurer from mail boy.

Samuel J. Aronsohn, 66, who retired a year ago as president of the silk manufacturing firm bearing his name, died at Paterson, N. J., Sept. 9.

Benjamin W. Dover, 73, senior partner of B. R. Dover Sons, bobbin and spool manufacturers, Philadelphia, died recently.

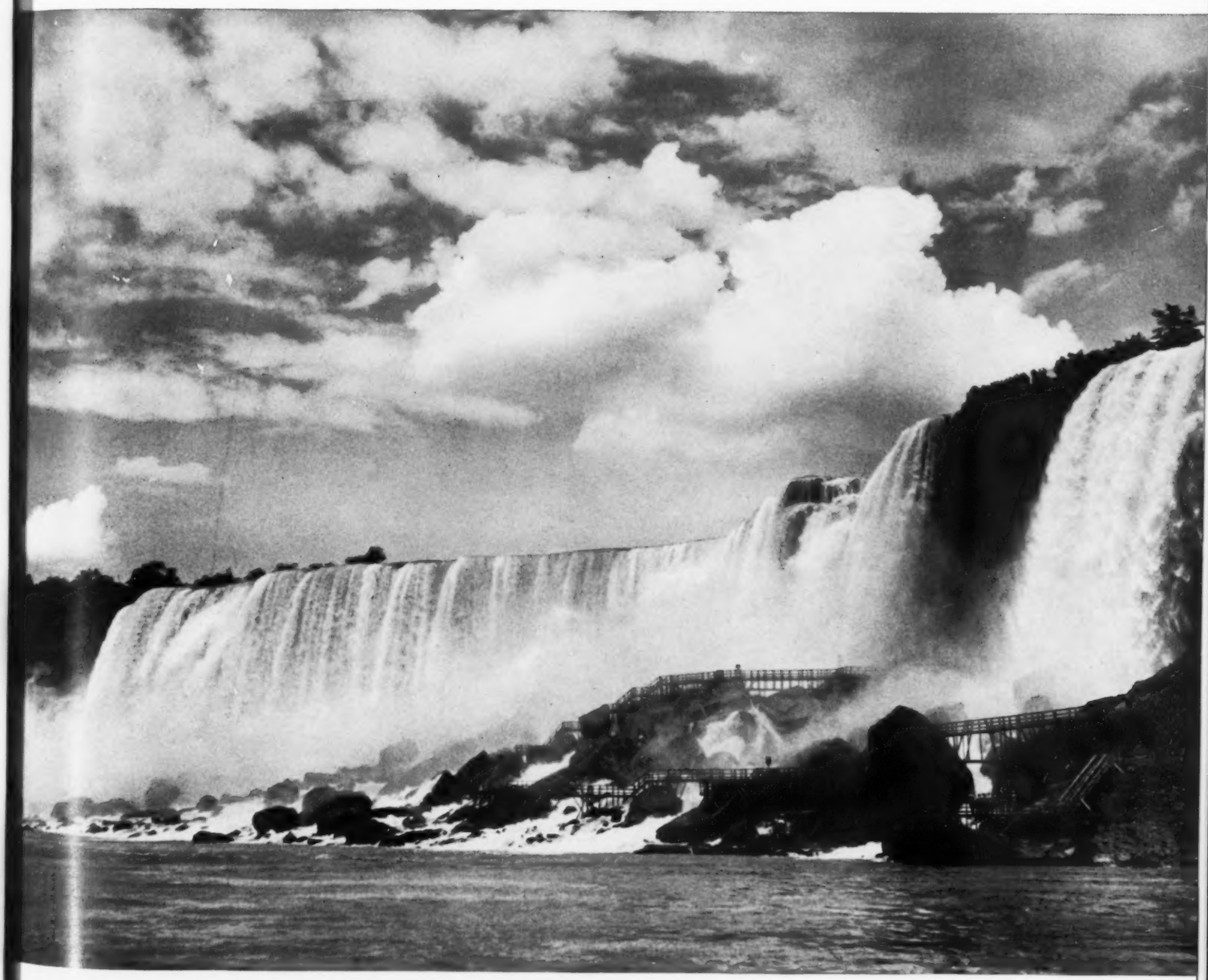
power to spare

For centuries Niagara Falls has inspired man with its ageless beauty and ceaseless power. Generation after generation has found it symbolic of the steadfast, dynamic way of life under which America has grown to its present stature. It is symbolic, too, that while power from Niagara has been harnessed to the will of man... to the production of mills and factories, to the creation of light and heat and energy... it still has a limitless volume of power to spare. Only a little of this great power has been used... as not all of the great potential power of America itself has been used.

America is a greater land of promise today than when the first pioneer saw a dream of the future in the mists of Niagara. New ways, new methods, new conceptions of how man may progress and expand under the doctrine of freedom can be seen today. The world will follow the steadfast, dynamic way of America to a new era. For the power of free men is as boundless as the power of Niagara — and as resistless as the flow of the river over its sharp cliffs.

We who work within sight and sound of Niagara Falls are devoting every ounce of our energies and facilities to speeding the flow of chemicals for Victory.

CAUSTIC POTASH · CAUSTIC SODA
PARA · CARBONATE OF POTASH
LIQUID CHLORINE



EBG **Niagara ALKALI COMPANY**

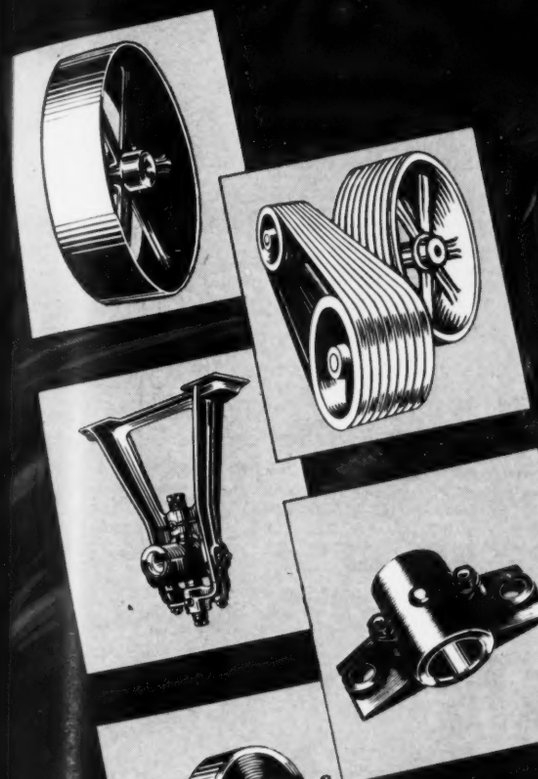
60 EAST 42nd STREET, NEW YORK, N. Y.

WOOD'S

Planned

POWER TRANSMISSION HELPED HERE

In a great many of the new or converted plants where our army's weapons are being made, production is kept at peak capacity, without interruption, because of efficient, dependable power transmission through Wood's equipment. Our 85 years' specialized experience in the development and production of successful power transmission equipment is at the service of all plants so engaged. Write, or call us now.



EVERYTHING IN TRANSMISSION

Bearings — Collars — Clutches — Couplings — Contactors — Hangers — Pillow Blocks — Pulleys — V-Belt Sheaves and Complete Drives

T. B. Wood's SONS COMPANY
CHAMBERSBURG, PA.

WOOD'S PLANNED POWER TRANSMISSION
MINIMIZES MAINTENANCE
because fewer motors are made to do more work with less effort.

Wood's the LONG LIFE LINE

BUY WAR BONDS

THEY WORK TOGETHER—LIKE A GOOD TEAM!

CELOTEX VAPOR-SEAL ROOF INSULATION AND CELOTEX BUILT-UP ROOFING

Provide The Ideal Protection!

CENTRALIZED RESPONSIBILITY! That's what you get when you buy Celotex Vapor-Seal Roof Insulation *with* Celotex Built-Up Roofing! Both are products of the same responsible manufacturer. Each is developed and applied to obtain the utmost in protection and efficiency from the other.

When the built-up roof is right, it guards against roof insulation trouble. And when roof insulation is guarded against common difficulties, like deterioration and moisture penetration, it won't cause roof trouble. *Centralized responsibility* makes for perfect team work between the two products—your assurance of long, satisfactory service!

Celotex Bonded Built-Up Roofs are available with ten, fifteen, or twenty-year bond. Celotex Vapor-seal Roof Insulation offers a thermal conductivity of 0.30, and the experience of a manufacturer who has produced more structural insulation than any other in the business. Write for complete information, specifications, and samples. Or consult your roofing contractor. No obligation.

CELOTEX

REG. U.S. PAT. OFF.

BUILDING PRODUCTS

VAPOR-SEAL ROOF INSULATION **BONDED BUILT-UP ROOFS**

THE CELOTEX CORPORATION • CHICAGO

When there is so little *don't be too late!*

GIVE YOUR STAINLESS STEEL EQUIPMENT THE CARE IT NEEDS ***NOW*** ... IT WILL LAST YEARS LONGER

Very little stainless steel is available today. Before long there will be less—possibly none, except for those processing plants with highest priorities. And even in those cases it will not be obtainable on short notice as in years gone by.

Chromium and nickel are needed for armament steels. And wartime orders get first call.

However, if you have equipment of Republic ENDURO* Stainless Steel, you need not be unnecessarily alarmed. *BUT YOU SHOULD TAKE EVERY PRECAUTION TO MAKE IT LAST LONGER—AND DO IT NOW!*

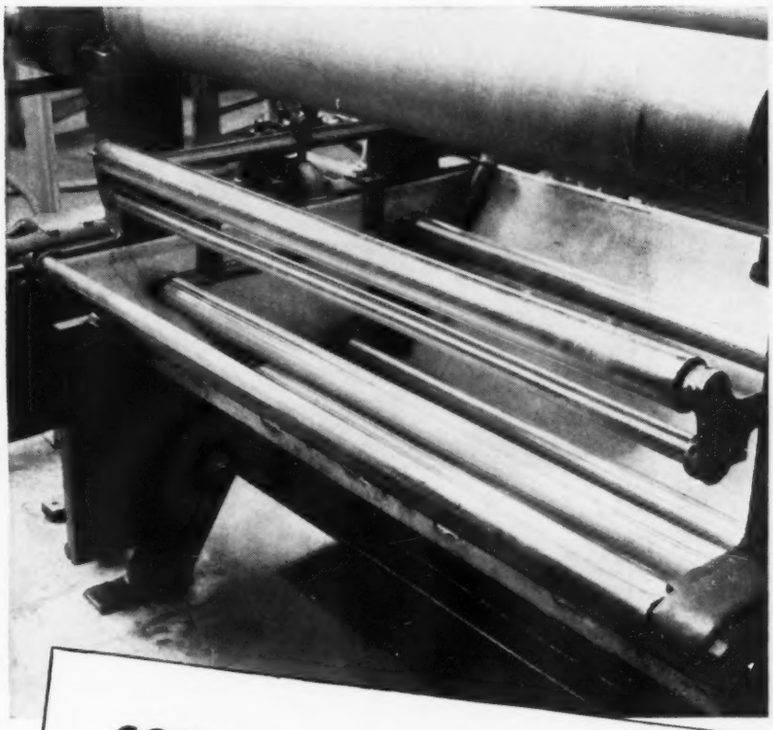
ENDURO is inherently long in service life—because it is processed to resist rust and corrosion. It is strong and tough—resistant to abuse. But it is a proved fact that the better care you take of any piece of equipment, the longer it will last. And this is true of ENDURO equipment. Simple care in cleaning plus certain precautions in service will materially extend its life which normally is longer than that of most other materials.

To enable you to conserve your stainless steel textile equipment, we have prepared a wall card presenting suggestions developed by Republic metallurgists during their *unequalled* experience with stainless steel in the laboratory and in plants of all classifications.

This card is being distributed through fabricators of ENDURO equipment. If you haven't received one, don't wait. *Write us direct.* Tell us the nature of your operations and how many cards you need.

*Reg. U. S. Pat. Off.

ARE YOU AN ENDURO FABRICATOR? *If you haven't received a supply of these cards, tell us how many you need. We'll gladly imprint your name and address.*



CONSERVE STAINLESS STEEL *Textile Equipment*

IT'S EASY * * * HERE'S HOW

Republic ENDURO Stainless Steel is the nearest approach to the perfect metal for textile equipment. It is extremely strong and withstands abuse far better than most other metals. However, proper care requires only a little time. Give your stainless steel equipment regular, systematic care, and you will obtain maximum service life.

Many types of corrosive conditions are encountered in the textile industry. In many types of service, the more highly corrosion-resistant type of stainless steel, ENDURO 18-8-5Mo, is recommended.

Follow These Suggestions for Longer Service Life...

1 **Cleanliness is of utmost importance at all times.** This cannot be stressed too strongly. To avoid contamination of dye solutions, use stainless steel wool or brushes for cleaning. Never use ordinary steel wool or brushes. Acid solution of sodium dichromate can be used for cleaning, but the equipment should be rinsed thoroughly with water immediately after.

2 **Avoid handling strong solutions of sulphuric and hydrochloric** or other strongly reducing acids in stainless steel equipment.

3 **Acid or chloride solutions should not be allowed to dry on stainless steel surfaces.**

4 **Sulphuric acid rather than hydrochloric acid should be used for dissolving solutions.**

5 **Do not hold continuous chlorine bleaches in stainless steel tanks.**

6 **If the equipment is so constructed that wood is in constant contact with stainless steel,** both the wood and the steel should be painted with asphaltum paint or zinc chromate primer.

7 **Avoid cyclic or bending stresses at all times.**

8 **Galvanic cell corrosion may be avoided** by using same types of metals together. Work for uniformity in regard to solutions, temperatures, agitation, concentrations and surface conditions. Often these ideal conditions may not be possible. Corrosion, however, may be greatly retarded by careful cleaning and periodic passivation by exposing the parts to clean air.

*** HOW TO CLEAN ENDURO STAINLESS STEEL EQUIPMENT ***
Cleansers and Their Reactions to Stainless Steel

1. Soap and water will remove ordinary deposits of grease, dust and similar contaminations. Washing should be followed with a water rinse and thorough drying.
2. Lightly adhering deposits of lime, oil, grease, weather stains, [illegible] light discolorations may be removed with any [illegible]

[illegible] [illegible]

REPUBLIC STEEL CORPORATION
Department TW
Alloy Steel Division Sales Offices: Massillon, Ohio
General Offices: Cleveland, Ohio
Berger Manufacturing Division • Culvert Division
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REPUBLIC

Enduro STAINLESS STEEL

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Other Republic products include Toncan* Iron Pipe and Sheets—Upson Quality Bolts, Nuts and Rivets—Berger Lockers and Shelving

IN ROOMS LIKE THIS
there are thousands of needs for this
set screw that positively locks when tightened-up.
Pat'd and Pat's. Pending

UNBRAKO

SELF-LOCKING HOLLOW SET SCREWS

with the Knurled Points

Use "Unbrako" Self-lockers wherever vibration and jarring might cause ordinary set screws in looms and other machines to work loose. They are a good insurance against loss of time and production. The Knurled-point "Unbrako" when tightened up just like the ordinary set screw, digs in and stays there and can be removed just as easily. Of course, it can be used over and over again. Write us today for more information or ask your local mill supply house. The chances are it carries them in stock.

Knurling of socket screws originated with "Unbrako" years ago.

UNBRAKO WELT-BAR SCREWS

They are uniformly strong and accurate and are sure to give complete satisfaction. Would you like a sample?

UNBRAKO

REG. U. S. PAT. OFF.

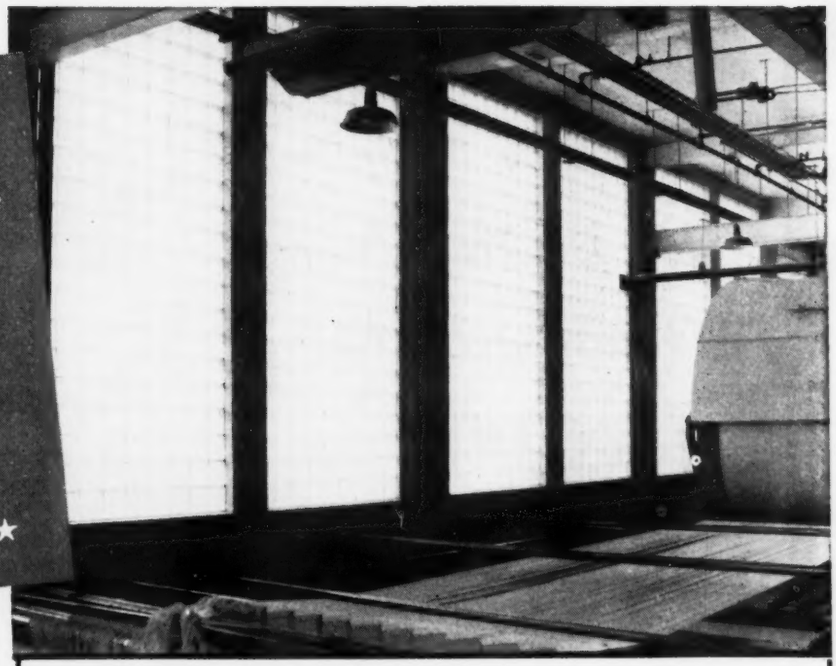
SOCKET SCREWS

Socket Head Stripper Bolt: Square Head Set Screws

STANDARD PRESSED STEEL CO., BOX 571, JENKINTOWN, PENNSYLVANIA

BRANCHES: BOSTON, DETROIT, INDIANAPOLIS, CHICAGO, ST. LOUIS, SAN FRANCISCO

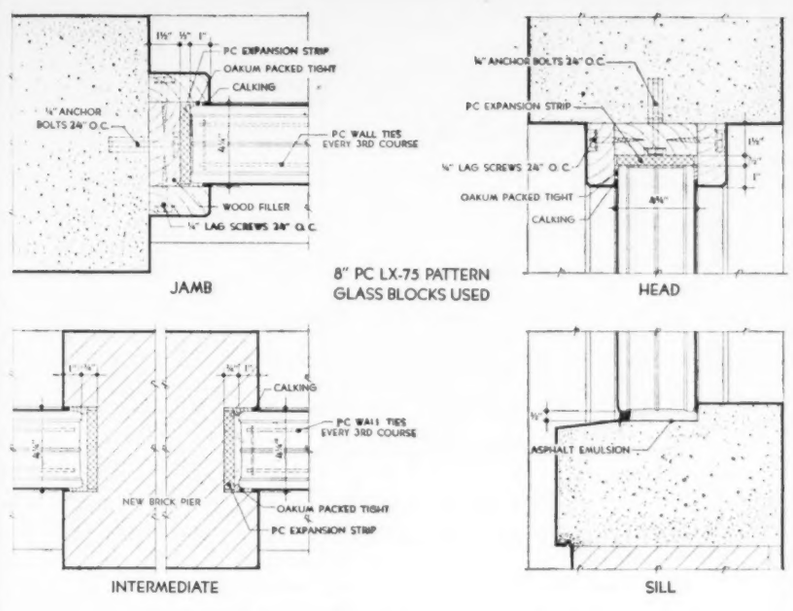
PC Glass Blocks prove ideal for sash replacement



—no priority materials required

THE BATES MANUFACTURING COMPANY recently faced the problem of replacing wood sash that had rotted due to high humidity prevalent in their plant. The management looked around for materials that would resist corrosion and that were not tied up with priorities. PC Glass Blocks were a natural choice. Wood chases and intermediate brick piers were installed in the existing openings. Then blocks were laid. In this case, no ventilation openings were required. However, windows of wood frame and sash—or ventilating fans—can be inserted in panels of glass blocks where desired.

IMPROVED OPERATING CONDITIONS OBTAINED AT THE SAME TIME. LX-75 pattern blocks were used because of their soft diffusion of daylight. Maintenance was reduced because high humidity does not harm the glass blocks or the mortar in the panels. Condensation on daylighting areas is eliminated except under extreme weather conditions—for the heat loss is less than half that of ordinary windows. This insulation allows better control of temperature and humidity.



How PC Glass Blocks were installed without use of priority materials.

NO NEED TO WAIT—We can supply PC Glass Blocks promptly. Get the facts about them now. Send for our free book that shows how plants in many branches of industry have used them successfully. If you wish, our representative will help you plan construction to avoid use of hard-to-get materials—with no obligation or cost involved.

"PITTSBURGH" stands for Quality Glass

PITTSBURGH PC CORNING

GLASS BLOCKS

Distributed by

PITTSBURGH PLATE GLASS COMPANY

and by W. P. Fuller & Co. on the Pacific Coast

Pittsburgh Corning Corporation
2124-2 Grant Building, Pittsburgh, Pa.

Please send me your free, illustrated book that tells how PC Glass Blocks have been used successfully in many industrial plants.

Name_____

Address_____

City_____ State_____

"Perfection in Spinning Can Be Most Nearly Obtained By Using

THE DARY TRAVELER"

★

The Dary Ring Traveler Company has been in business for more than 45 years and has been constantly improving the methods of manufacturing High Speed Travelers, until today we are able to produce Travelers of a guaranteed weight, temper and style. Dary Travelers are made from a specially drawn stock by skilled workmen with years of experience. It is the Dary Process with diligent watch over every detail and the co-operation of our customers that has enabled us to manufacture a Traveler that is unequalled.

★

THE

DARY

RING TRAVELER CO.

TAUNTON,

MASS.

SOUTHERN REPRESENTATIVES

JOHN E. HUMPHRIES, Box 843, Greenville, S. C.
JOHN H. O'NEILL, Box 720, Atlanta, Ga.
H. REID LOCKMAN, Box 515, Spartanburg, S. C.

★ In one of their recent bulletins on hoists, the National Safety Council says:

> *"Hooks which have become bent on account of overloading should not be straightened and put back in service, but a new hook should be provided. When a hook is once bent the stress in the metal tends to weaken it so that afterward its strength is a matter of doubt and cannot be depended upon."*

That's good advice. With the lives of American boys utterly dependent upon our industrial production, this is no time to take chances which may cause lost time accidents to men or machines, or both.

Watch the Hooks. Wright load hooks are drop-forged from special steel which, when subjected to excessive overloading, give visible warning by opening slowly. When the bottom hook has started to open, look to the top hook, too, for while it is stronger than the bottom hook, it also may be reaching a danger point.

Don't Abuse Your Hoist. Now that we are all faced with restrictions and shortages proper maintenance is of paramount importance. While every **WRIGHT HOIST** is built with load-carrying factors considerably in excess of their rated capacities, like many other well-made pieces of mechanical equipment built for specific duty, they should not be overloaded. Overloading is dangerous—to men, materials, machinery and steady production. Remember—abuse to machinery today is akin to sabotage. Conserve steel and maintain production schedules by careful use, regular inspection and proper lubrication.

WRIGHT MANUFACTURING DIVISION
YORK, PA. CHICAGO SAN FRANCISCO NEW YORK

In Business for Your Safety

ACCO

AMERICAN CHAIN & CABLE COMPANY, Inc.
BRIDGEPORT • CONNECTICUT

This Simple Test Shows Why the CONCAVE SIDE Cuts Belt Costs!

What Happens When a V-Belt Bends

FIG. 1

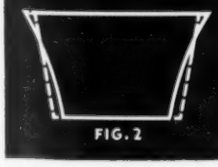


FIG. 2

If you care about belt costs, pick up any V-belt you have handy and make this simple test:—

Bend the V-belt while you grip its sides and you will feel how the belt changes shape. The top, under tension, narrows. The bottom widens. The sides of the belt bulge out. Clearly, if its sides were straight to begin with, the bent belt is forced into a shape that does not fit the sheave groove—as shown in figure 1, on the left.

Now, bend a V-belt built with the patented Concave side. You get the same shape change, but now the new shape exactly fits the sheave groove—as shown in figure 2. There is no side-bulge. Results? (1) Uniform side-wall wear—longer life! (2) The belt gets a full side-width grip on the pulley—carries heavier loads without slippage. This cuts belt costs and saves power.

Only belts built by Gates are built with the Concave side, which is a Gates patent.

THE GATES RUBBER COMPANY

Engineering Offices and Stocks in All Large Industrial Centers

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your old machine tools for war production!

LEWELLEN

Variable Speed } TRANSMISSIONS / MOTOR PULLEYS

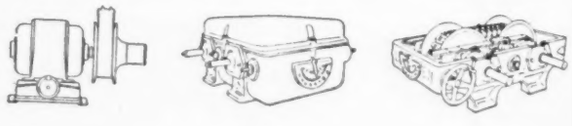
get work done faster reduce spoilage

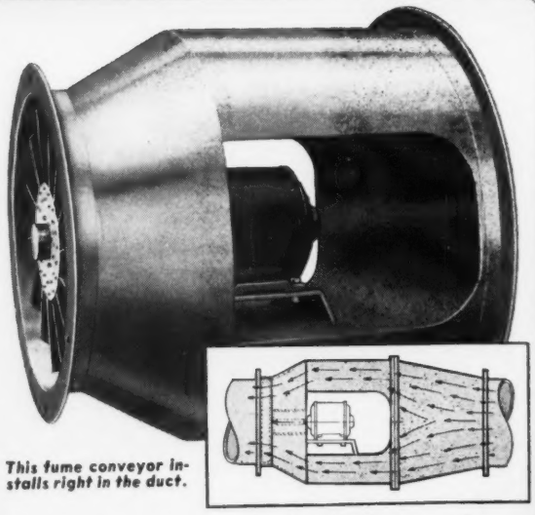
● No time to lose now! Old-fashioned, outmoded machines cannot keep step with wartime demands for rapid, accurate production.

There is something you can do to put new life into these machines. Install Lewellen Variable Speed Transmissions or Variable Speed Motor Pulleys in the drives. Have the speed you want when you want it. What happens? Simply this: Production schedules are usually met.

In these stirring days Lewellen Controls are meeting all government demands for accuracy and dependability in plants the country over. Don't hesitate to ask for our help now when our more than 40 years of speed control experience means so much.

LEWELLEN MANUFACTURING COMPANY, COLUMBUS, INDIANA





This fume conveyor installs right in the duct.

New Large Inlet Bifurcator for EXHAUST SYSTEMS

These new units are highly efficient for ventilating corrosive, high temperature and hazardous fumes and gases. The motor is isolated from fumes in a chamber ventilated at BOTH ends. DeBothezat Bifurcators have non-overloading power characteristics. They install in any position from horizontal through vertical. Wide range of sizes and capacities. Investigate Bifurcators.

Hinged top gives easy access to motor fan and shutter.

Light-proof ROOF VENTILATOR ready for Black-out

DeBothezat Roof Ventilators provide positive ventilation independent of wind, temperature or gravity. No light shows through at night. They are always ready for black-out without special treatment. Non-overloading power characteristics eliminate burned out motors. Low in height — they harmonize with modern plant design. Wide range of sizes and capacities. Get details.

FREE *Catalogs on DeBothezat Bifurcators and Roof Ventilators.*

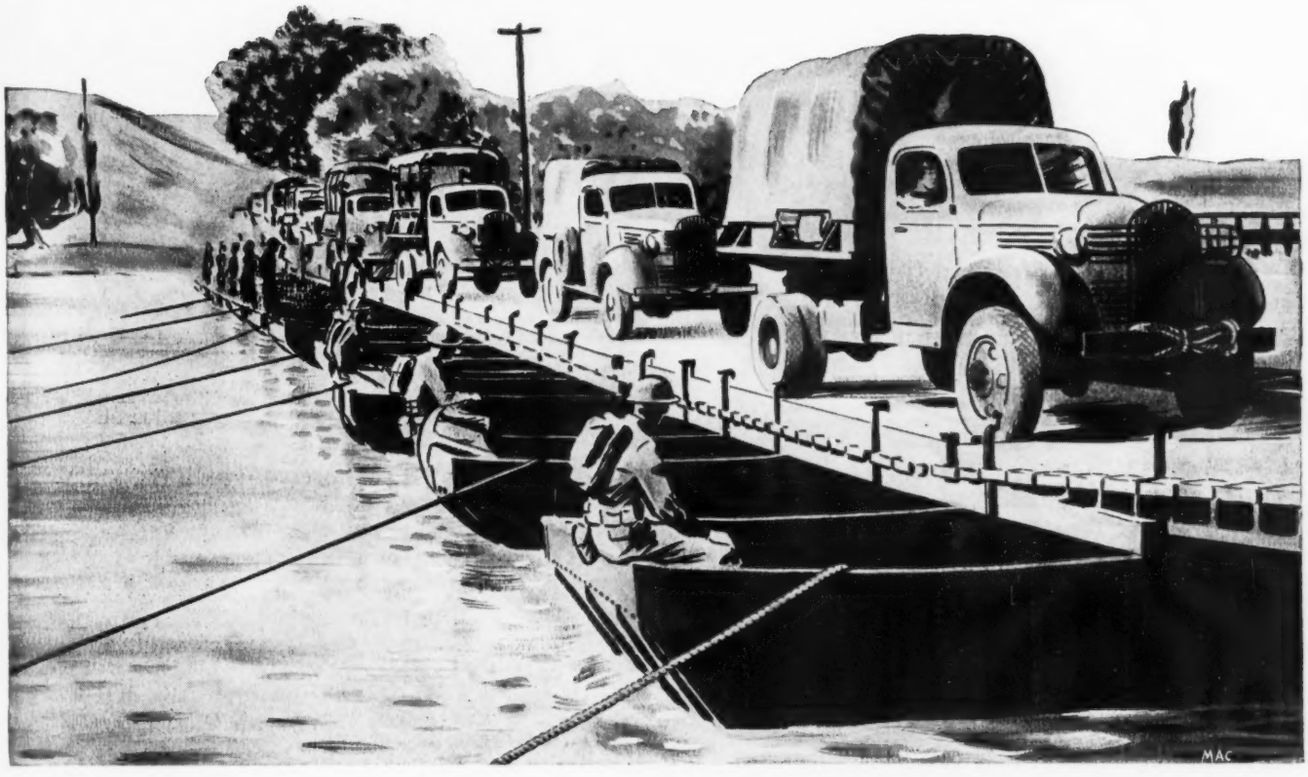
DeBothezat

VENTILATING EQUIPMENT

American Machine and Metals, Inc.

EAST MOLINE, ILLINOIS

Will they lose battles FOR LACK OF STEEL?



We *could* lose crucial second-front battles . . . see needless thousands of our soldiers sacrificed . . . even lose the war. But we *must not.*

We'll shorten the war by giving our fighting men all the steel equipment they need. This means millions of tons of scrap must be salvaged this year. It's up to all of us, because scrap iron is desperately needed to make steel that goes into this fighting equipment.

Here Are the Figures: Our steel industry produced 67 million tons in 1940—broke all records by producing 83 million tons in 1941. *Yet we need still more.* This year the steel industry *can* produce 90 million tons if you and other Americans will gather up and turn in six million *additional* tons of scrap.

Why Scrap Is Needed: New steel is made from scrap iron and pig iron (about half and half). Because the scrap has already been refined it cuts down priceless production time.

What Can *You* Do? Be sure your plant has salvage committees with an energetic chairman for every department. Let them gather all the scrap iron they can find and call the scrap dealer. He'll hurry it off to the steel mills to help win these life-or-death battles. All scrap collected will be purchased by the steel industry at government-controlled prices.

Back up our fighting men. The least we can do for them (perhaps sons or brothers) is give them the fighting equipment they must have to win. Your scrap will help. Get it in—fast! The American Rolling Mill Company, 3031 Curtis Street, Middletown, Ohio.

ARMCO

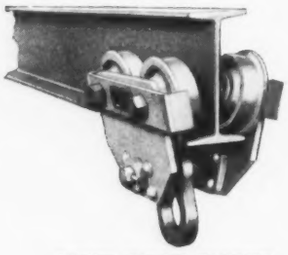
TURN IN ALL YOUR SCRAP

CONCO HANDLING EQUIPMENT
FOR TEXTILE MILLS

Speedy, economical Victory production calls for modern methods and modern equipment. Here's handling equipment that is modern and "made-to-order" for use in your mills. Write for complete details.

CONCO DIFFERENTIAL HOIST

Light weight, low cost, sturdily built. Capacities ¼ through 2 tons. Ideal for use in a variety of departments. Quickly, easily movable from place to place.



CONCO I-BEAM TROLLEY

Available in four styles—Plain (illustrated), Ball Bearing, Rigid Plate or Geared. Capacities from ¼ through 10 tons. Use with Conco hoists.

CONCO TORPEDO ELECTRIC HOIST

Available in 250-, 500- and 1000-lb. capacities; adaptable for hook, bolt or trolley suspension. Features double drum construction, push button control, electric brake, positive limit switch. Simple, heavy construction employing only two gear reductions. Write for literature.

SPUR GEAR HOIST

Fast, powerful! Capacities ¼ through 10 tons. Dust proof, oil-tight gearcase. Chain electrically welded. Ideal with Conco I-Bean Trolley.

CONCO ENGINEERING WORKS
32 GROVE STREET
MENDOTA, ILLINOIS

MERSOLITE-8*
Phenyl Mercuric Acetate

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A BERK PRODUCT
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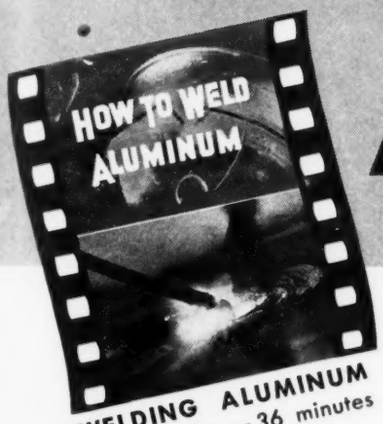
A Powerful MILDEWPROOFING Agent for TEXTILES

Recent technical publications show Phenyl Mercuric Acetate to be a POWERFUL MILDEWPROOFING AGENT for textiles. This chemical, new to commerce, has been made available at commercially practical prices by America's largest producer of purified mercury and mercury compounds. Your inquiries will receive prompt attention.

F. W. BERK & CO. INC.
WOOD-RIDGE DIVISION
Wood-Ridge, New Jersey

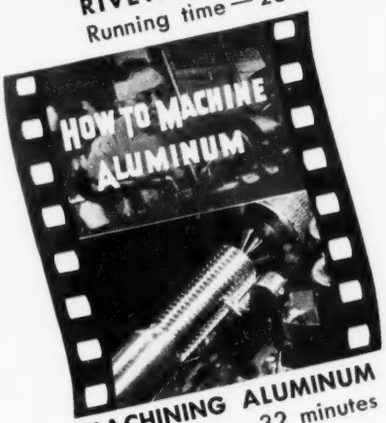
3 NEW FILMS

FOR TRAINING ALUMINUM WORKERS



WELDING ALUMINUM
Running time—36 minutes

RIVETING ALUMINUM
Running time—26 minutes



MACHINING ALUMINUM
Running time—32 minutes

Valuable "how-to-do-it" data on Welding, Riveting and Machining Aluminum is contained in these three, brand-new sound motion pictures. Designed to supplement texts and teaching, these films are offered for your assistance in training war workers in the fabrication and assembly of Aluminum Alloy parts and structures.

No drama, no humor, no romance! Every foot of these films is packed with hard-hitting task instruction.

"How To Weld Aluminum" describes and demonstrates the various essentials of torch and arc welding, brazing and resistance welding. "How To Rivet Aluminum" portrays the making and testing of rivets, preparation of the work, actual rivet-driving techniques and inspection. "How To Machine Aluminum" discusses alloys usually used, the kind and shapes of tools, cutting compounds, speeds and feeds.

Task instruction is made easier.

35 mm. and 16 mm. SOUND PRINTS AVAILABLE FOR LOAN OR PURCHASE

Prints of these black and white, sound motion pictures are loaned free.

List the titles of the pictures you want . . . your first and second choice of dates when you want them . . . whether you want 35 mm. or 16 mm. prints . . . and the approximate number of days you expect to use them. (NOTE: These films can be shown *only on sound projectors.*)

If you want to purchase prints for your permanent library, they are available at cost, shipping charges prepaid. Prices follow.

	16 mm. with fibre container	35 mm. with metal container
How To Rivet Aluminum	1200-ft. reel . . $42.80	2000-ft. reels . . $103.80
How To Weld Aluminum	1600-ft. reel . . 62.70	2000-ft. reels . . 176.30
How To Machine Aluminum	1200-ft. reel . . 50.70	2000-ft. reels . . 123.55

Send your requests for loan or purchase to Aluminum Company of America, 1942 Gulf Building, Pittsburgh, Pennsylvania.

See these films at the National Metal Exposition, Cleveland, October 12-16.

ALCOA ALUMINUM

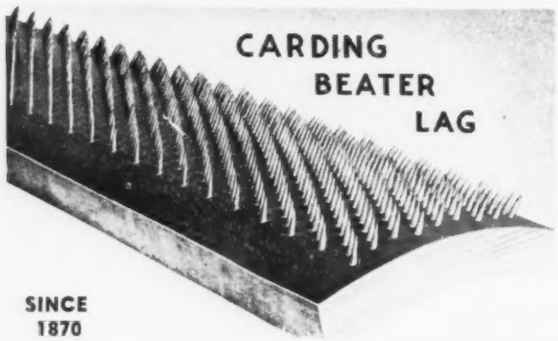
DuraBeau FINISHES
Reg. U.S.A. and Canada

Scholler adapts their proven "fine-art" of producing hosiery and fabric finishes, to meet the demands of a war-time economy . . . Yet, through research and constant familiarity with the consumer's needs, DuraBeau Finishes impart all those vital requisites of loveliness, spot and water repellency, snag-resistance, allure and long life to today's fabrics.

SCHOLLER BROS. INC.

Mfrs. of Textile Soaps, Softeners, Oils, Finishes • Collins and Westmoreland Sts., Phila., Pa. • St. Catharines, Ontario, Canada

PINS and LAGS



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We offer

A BIG MODERN PLANT PLUS 72 YEARS OF EXPERIENCE

It means that you can speed your production for the war effort by making use of all the knowledge we have gained on needle-pointed specialties for the preparation of wool and other fibres. In all the field—no plant like this—no such rich fund of experience—no such quality. Your inquiries will receive emergency attention.

We are experienced manufacturers of needle pointed goods and many specialties made to order.

JUTE and FLAX CARDS PINS
COTTON WASTE PICKER PINS
BAG or SHODDY PICKER TEETH
MIXING PICKER TEETH and PINS
WASTE MACHINE PINS
DOFFER TEETH
CORDAGE PINS
TENTER PINS
FALLER BAR PINS
JENNY BAR PINS

GILL PINS
HACKLE PINS
COMB PINS
FALLER BARS—PLAIN or PINNED
HECKLES FOR MACHINE or HAND
GILLS PINNED
TENTER PLATES PINNED
WET and DRY COMBS
FOR THE BRUSH TRADE

LAGS—GILLS—TENTER PLATES
ROLLS—FALLER BARS
IRON RIVETS
PLAIN or STEEL CLAD LAGS FOR USE IN
JUTE and FLAX CARDS
COTTON WASTE PICKERS
CARDING BEATERS
BAG or SHODDY PICKERS
WORSTED ROLLERS—WOOD or STEEL
STRIPPER ROLLERS—WOOD or STEEL

LUMPERS
WIPING WASTE MACHINES
PINNED FEEDER SLATS
PLAIN SLATS
DOFFER PLATES
WASTE MACHINE—
DOFFER CYLINDERS—STEEL
FLUTED ROLL LUGS
PINNED FEED ROLLERS

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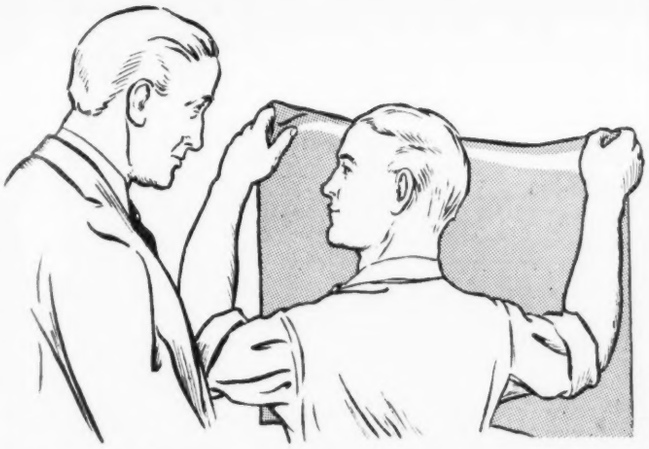
THE IDEAL
MARKING
CRAYON
for all textiles
Made especially for marking the roving in wool, cotton, silk, rayon, and all textile mills. 18 colors available. Write Dept. TW-9 today for FREE Color Chart!
ACTUAL SIZE
"REG. U. S. PAT. OFF.
THE AMERICAN CRAYON COMPANY
1706 HAYES AVENUE SANDUSKY, OHIO
NEW YORK SAN FRANCISCO DALLAS



There'll be no rejects on this cloth since we switched to—

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QUALITY CARD CLOTHING

Benjamin Booth Company

ALLEGHENY AVENUE and JANNEY STREET ⋄ PHILADELPHIA, PA.

50 YEARS OF SERVICE

Sterling Ring Travelers

ATTENTION

Take time to check your Rings and Travelers. In these busy days Rings are wearing more and more and a different circle or style Traveler is needed. Check and prevent waste of critical metals.

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STERLING RING TRAVELER CO.
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FULLY TRAINED AND EQUIPPED FOR WHAT THE WAR MAY BRING

Every day brings new problems to America's flying men —problems they are trained and equipped to meet and solve gloriously.

War brings new problems to Globe's customers, which Globe is helping them to solve—problems of dyeing new yarns; of getting the colors they want, with war restrictions on dyestuffs and manpower to complicate their problems.

Globe has both modern equipment and dyeing methods. Globe's salesmen are chosen for ability and experience to aid you in solving your wartime yarn dyeing problems. In War as in Peace you can rely on Globe.

Globe DYE WORKS CO.

Dyers and Bleachers of cotton skein yarns and warps. Dyers of rayon, spun rayon, aralac, nylon and novelty yarns.

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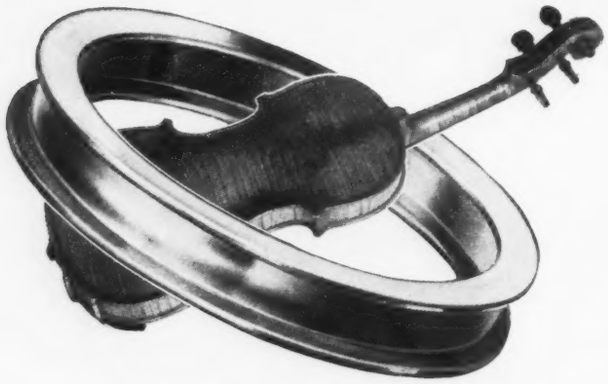


Product of *Specialists*

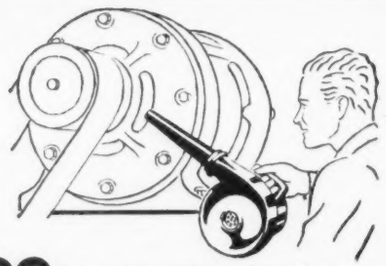
DIAMOND FINISH rings are the product of an organization which for 69 years has devoted its entire energies to research, engineering and production on RINGS. As a result, you can obtain here exclusive advanced designs of rings which permit new high production from your existing machinery. Whether your need is for these special designs or for standard rings, deal with this firm of Specialists and get the finest the market offers — in easy-starting ability, long-wearing endurance, and expert ring counsel!

WHITINSVILLE (MASS.)

SPINNING DIAMOND FINISH **RING CO.**

Makers of Spinning and Twister Rings since 1873

Blow Out Dust — Keep Motors and Machinery Clean with



TORNADO Portable Electric Blowers

PREVENT motor burnouts, overheating and shutdowns. Keep motors and machinery clean. Blow out dust, dirt, lint, chips, etc. with the powerful, portable TORNADO Electric Blower. Quickly pays for itself in cutting repair and replacement costs. **Write for details and FREE Trial Offer**

Request details on Low-Priced Air-Raid Sirens

BREUER ELECTRIC MFG. CO. 5086 Ravenswood Ave. CHICAGO, ILLINOIS

MURDOCK Bobbin Holders

Two exclusive Features Affording Long Life:

1. Automatic-bobbin holders equipped with holding wings electrically hardened all the way through.

2. Holding wings held positively in position by skeleton washer—no sliding around.

We make holders for ¾" to 2½" bobbin heads, including large-package wood and paper bobbins, also special bobbins. Duplex holders take both automatic and non-automatic bobbins. Holders for all types of mules, frames, twisters, and winders.

MURDOCK & GEB CO., Franklin, Mass.

Manufacturers of Bobbin Holders for Over Fifty Years

COTTON WARPS

Cotton Yarn and Warps . . Single or Ply . . White or Colored . . Carded . . Combed

Novelty yarns—of cotton worsted, wool, mohair, rayon — in all fashionable combinations and effects and in many original effects. Write for samples.

Sell Direct

Dana Warp Mills . . Westbrook, Maine

THE OLDEST AND LARGEST

MANUFACTURER OF

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MAKE STRONGER YARN

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PHILIP C. WENTWORTH, *Treas.*

P.O. Box 1565. Providence, R. I. Charlotte, N. C.

A good spindle brake is a small item but a necessary one. Here is a good spindle brake. We pioneered this brake back in 1923 and have been making it ever since. The many users of this brake have found it to be a big time and money saver. The tips on these brakes are made of fibre and will give you many years of service.

Drive collars are necessary items in many mills. Our drive collars are the best you can buy. They are made right and will fit your spindles and bobbins

For accurate setting of your 5B bobbins use our drive collar spacers, or shims. They are made of shim stock, ten, fifteen or twenty thousandths thick and are used under the drive collar.

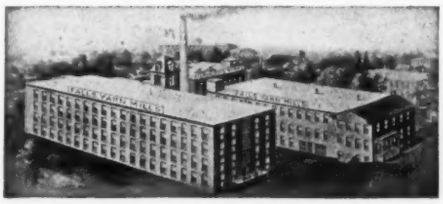
These are all stock items and can be shipped immediately.

WAYNE MFG. CO., HONESDALE, PA.

FALLS YARN MILLS

WOONSOCKET, R. I.

Incorporated 1904



Fine Woolen and Specialty Yarns For Weaving and Knitting

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Standard Grades—Lustrous—Delustred—Superfine

Rayon Noils . . Staple Fibre

ANDREW K. HENRY

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Rayon and Nylon Yarns

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We specialize on high twist rayon processed with "AVCONIT No. 1" for full fashioned hosiery.

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Yarns for all purposes

French and English Spun Worsted
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Cotton Freshness

. . . the new basic selling appeal for cotton, featured every month in the national campaign of 12,000,000 cotton farmers and the American cotton industry.

NOVEMBER

Page ads in November issues of *Country Gentleman, Progressive Farmer* and *4-H Club News* will feature this basic selling theme for you in HOME SEWING.

NATIONAL COTTON COUNCIL OF AMERICA—COTTON-TEXTILE INSTITUTE

Increase Production From Spinning Frames

Oil stained yarn from your spinning frames tells the story of how dripping, creeping oil reduces production. Such losses must be avoided if high output is to be attained.

NON-FLUID OIL does not drip or waste. Through its use 7 out of 10 mills secure trouble-free operation of frames and maximum output of clean yarn. Because NON-FLUID OIL outlasts oil many times, it saves on oil bills too.

Write for instructive bulletin

New York & New Jersey Lubricant Co.

***Main Office:* 292 Madison Ave., New York, N. Y.**

Southern Agent, Falls L. Thomason, Charlotte, N. C.

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NON-FLUID OIL

IN U.S. PAT. OFFICE & FOREIGN COUNTRIES

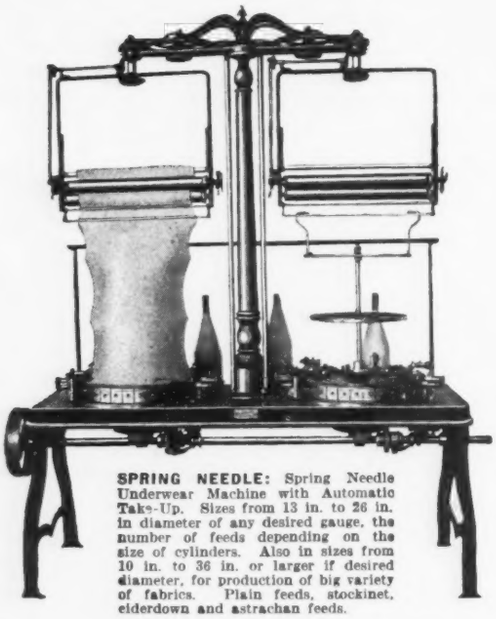
MODERN TEXTILE LUBRICANT

Better Lubrication at Less Cost per Month

CRANE

KNITTING MACHINES

meet the need for Speed—
for Quality and Low Cost



SPRING NEEDLE: Spring Needle Underwear Machine with Automatic Take-Up. Sizes from 13 in. to 26 in. in diameter of any desired gauge, the number of feeds depending on the size of cylinders. Also in sizes from 10 in. to 36 in. or larger if desired diameter, for production of big variety of fabrics. Plain feeds, stockinet, elderdown and astrachan feeds.

CRANE Knitting Machines meet the demands of rapidly changing patterns and styles. Their middle name is *versatility* . . . plus smooth, fast running operation that eliminates expensive stops. Among their exclusive features are Patented hardened Wing Burr Wheels and patented Thread Stop Motion. There's many a Knitting Mill in which batteries of Cranes are the mainstay of production.

Let us tell you why —and how . . . just ***WRITE***

CRANE Improved Automatic
3 Colored

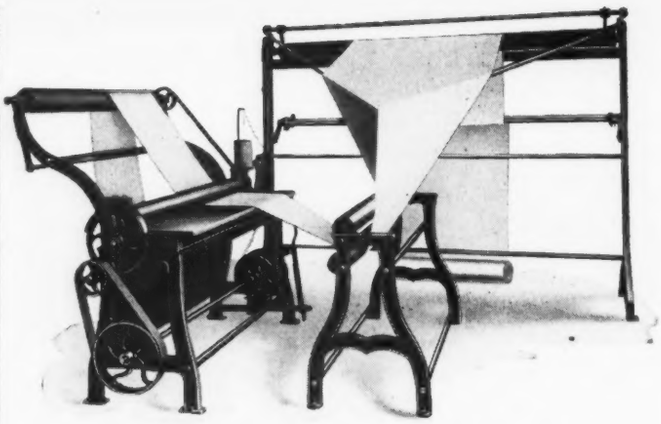
Improved Automatic 3 Colored Plain Stripes. Made in sizes from 7⅜ in. to 20⅝ in. inclusive, of any desired gauge. Measurements are back to back of cylinder needles. Knit fabrics for bathing suits, theatricals, athletic goods. Crawford stop motion applied when requested.

1870 **CRANE** 1942

MANUFACTURING CO.
LAKEPORT, N. H.

Spring Latch Needle

KNITTING MACHINERY



No. 27—IMPROVED DOUBLING AND TACKING MACHINE

Sewing any length stitch up to 1¼ in., making a firm, strong stitch for any weight or width of goods. This machine is equipped with our latest oscillating needle bar sewing head, which makes it the fastest tacking machine on the market for tacking the selvages of woolen and worsted fabrics. For further information, send for our catalog.

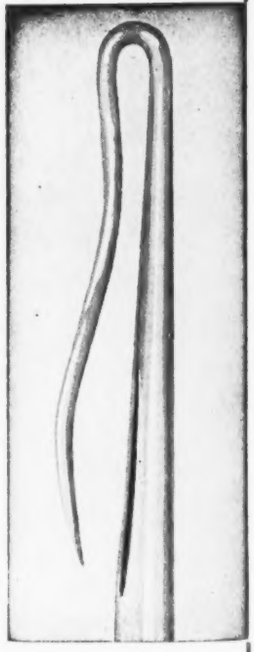
DINSMORE MFG. CO.

SALEM, MASS.

CHARLES COOPER CO., INC.
Bennington, Vermont

Manufacturers of
Quality LATCH and SPRING-BEARD

NEEDLES



also
Manufacturers of **THE FAMOUS COOPER CIRCULAR SPRING-NEEDLE RIB KNITTING MACHINES**

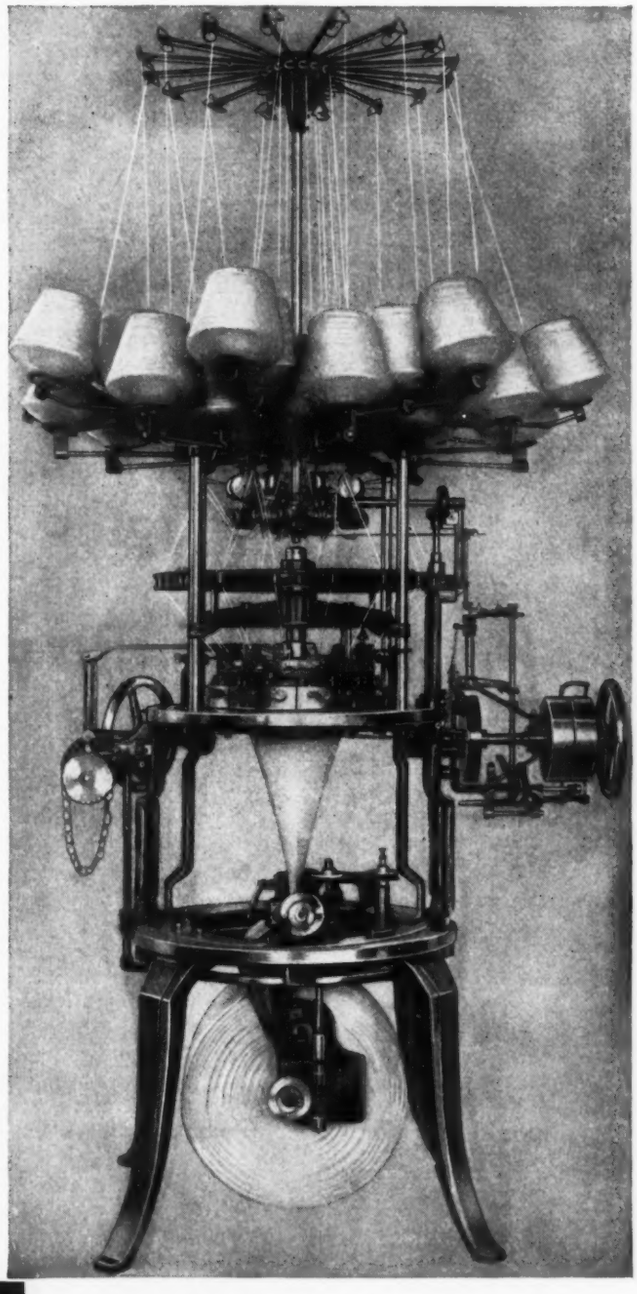
1 . . . 16-FEED MACHINE DOES THE WORK OF

2 . . . 8-FEED MACHINES ON

1/2 . . THE *FLOOR SPACE*

In these days of supreme effort to crowd greater production into every hour, this WILDMAN Multiple Feed Rib Machine stands out like a light in the darkness. All eyes in the knitting world are turned its way.

A 16-feed machine; it will replace your 8-feed machine on the SAME FLOOR SPACE, at the same time DOUBLE PRODUCTION and it uses only a third more power. There are many other advantages which combine to create trouble-free operation and a uniformly better product. You should know all about this machine; write for complete details.



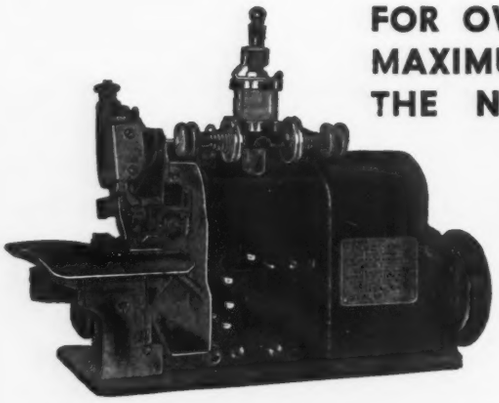
for AMERICA "Throw YOUR SCRAP into the FIGHT"
AMERICAN INDUSTRIES SALVAGE PROGRAM

WILDMAN

MFG. CO., NORRISTOWN, PA.

WILDMAN MULTIPLE FEED RIB MACHINE

Established 1838 **MERROW** **Incorporated 1894**



FOR OVERSEAMING AND OVEREDGING WITH MAXIMUM EFFICIENCY — MODERNIZE WITH THE NEW MERROW CLASS A MACHINES

The result of several generations of specialized effort in the industrial sewing machine field—combining quality production with high speed and low operating cost to a greater degree than ever before.

WRITE FOR DETAILS AND LET US DEMONSTRATE THESE MACHINES ON YOUR OWN FABRICS.

ALSO PLAIN CROCHET AND SHELL STITCH MODELS FOR ORNAMENTAL EDGE FINISHING AND CLASS 60 MACHINES FOR BUTT SEAMING

200 VARIETIES FOR 200 PURPOSES

THE MERROW MACHINE COMPANY

Starting Its Second Century

2803 LAUREL STREET HARTFORD, CONN., U. S. A.

TOMPKINS

CIRCULAR SPRING NEEDLE

KNITTING MACHINES

FOR PRODUCING

UNDERWEAR	OVERCOATS
SWEATERS	TERRY CLOTH
SWEAT SHIRTS	STRIPED CLOTH
DRESS CLOTH	PATTERNS

RUBBER LAY-IN FABRICS

CIRCULAR LATCH NEEDLE

KNITTING MACHINES

FOR PRODUCING

TOQUES	SCARFS
PARKAS	SHAKER CAPS

TOMPKINS BROS. CO.

SINCE 1846 SYRACUSE, N. Y.

NEW ENGLAND BUTT CO.

PROVIDENCE, R. I.

Manufacturers of

BRAIDING MACHINERY

now

ONE HUNDRED YEARS YOUNG

1842 — 1942

Write Dept. T-10 for Catalog No. 41

Containing information on braiders

THE LOYAL T. **IVES** COMPANY EST. 1874

SPRING BEARD KNITTING NEEDLES

For Circular, Full Fashioned, Tricot and Milanese Knitting Frames, also Narrowing, Stand, Transfer Points and Welt Hooks for Full Fashioned Machines; Slides, Sinkers, Jocks, Guides or Flat Eyes, Sley and Milanese Points, Transfer Points or Quills, etc.

Sheet Metal Specialties to Order

NEW BRUNSWICK NEW JERSEY

Acme Products

for seamless hosiery knitting

Speak for themselves

Up-To-Date Machines

Needles

Economy Makers

ACME KNITTING MACHINE & NEEDLE CO.

FRANKLIN, N. H.

Machine and Hand Knitting

Yarns

[French-Bradford]

for

BATHING SUITS
OUTERWEAR
HOSIERY
UNDERWEAR

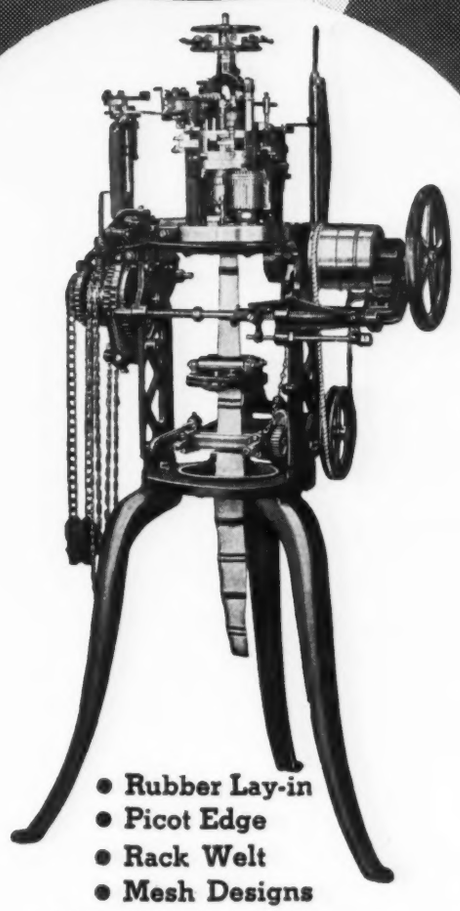
★

Complete color assortments

American Woolen Company

225 Fourth Avenue **New York**

New
BRINTON
Modern
RIBBERS



- **Rubber Lay-in**
- **Picot Edge**
- **Rack Welt**
- **Mesh Designs**
- **4 & 5 color Yarn Changers**
- **3 & 4 Feed Machines**

Can your ribbers compete against modernly-equipped plants? Let us send you full particulars on the new BRINTON ribbers or tell you how to bring your ribbers up-to-date.

These versatile BRINTONS will raise the efficiency of your mill, reduce operating costs, boost production.

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BRINTON

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Southern Representative
Robert Baker
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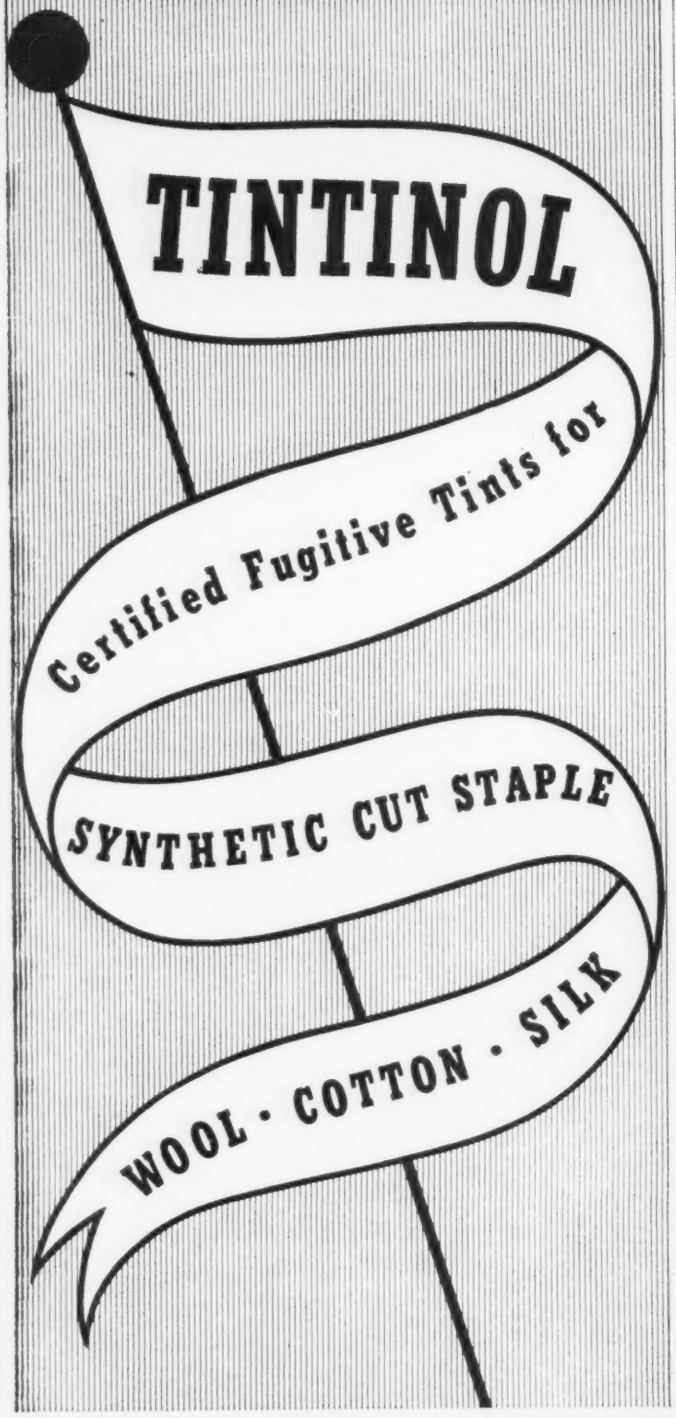
3700 KENSINGTON AVE., PHILA., PA.

"THEY ARE ALL FUGITIVE"



BORNE SCRYMSER COMPANY

ESTABLISHED 1874

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ELIZABETH, N. J. CHARLOTTE, N. C.

Use them together for

even-running yarn and clearer stitch

HYDROCOP and 3B SOFTENER

Two outstanding Laurel Emulsions of timely importance to all who knit or weave cotton. Laurel HYDROCOP and 3B SOFTENER are used to soften and lubricate dyed and bleached yarn. They improve knitting qualities through even- and smooth-running yarn. Restore normal moisture.

Stable, will not turn rancid, nor yellow whites, nor in any way affect subsequent wet processing.

We'll be glad to supply you with a sample and suitable formula to fit your needs.

Send for sample order.

Laurel SOAP MANUFACTURING CO., Inc.

SOAPS • OILS • FINISHES

Wm. H. Bertolet's Sons Established 1909
2606 E. Tioga Street Philadelphia, Pa.
Warehouses: Paterson, N. J. Chattanooga, Tenn. Charlotte, N. C.

FULLITIN

1. Used in place of soap for fulling, it eliminates the lengthy soap boiling operation.
2. Used with soap, it prevents congealing, eliminating stuck places, creases and whiplashes.
3. Permitting the use of stone cold soap, it prevents the troubles that hot soap causes.

Sample on request

ERNST BISCHOFF CO., Inc.
IVORYTON —— CONN.

SAVE WITH FASTER SCOURING

MILLS processing rayons and rayon mixtures appreciate Metso's quick wetting and emulsifying powers with oil, size, tint and other dirt. In addition Metso's unique ingredient, soluble silica, prevents removed dirt from reattaching itself to the fibre; hence, whiter, cleaner goods that merit the "A" grading.

Metso* is easy to use; uniformly dependable and safe to handle. May we suggest how it can help you?

PHILADELPHIA QUARTZ CO.
General Offices and Laboratory: 125 S. Third St., Phila., Pa.
Chicago Sales Office: 205 W. Wacker Dr. Stocks in 65 cities

*Sodium Metasilicate, U. S. Pat. 1898707; Sodium Sesquisilicate, U. S. Pat. 1948730, 2145749

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PENICK & FORD, LTD., INCORPORATED

CORN STARCHES, DEXTRINES, GUMS, CORN SUGARS & SYRUPS

NEW YORK, N. Y. - - - - CEDAR RAPIDS, IOWA

SOUTHERN OFFICES: ATLANTA, GA. - - - - SPARTANBURG, S. C.

John:
The Starches and Gums which Penick and Ford manufacture for polishing twine and cord have been developed for every phase of this operation.
Lets try their recommendation.
Jim

MANUFACTURERS OF DYESTUFFS AND CHEMICAL SPECIALTIES

We offer
Two new cationic type softeners

TEXAMINE

a pure white permanent softener economical to use due to its complete exhaustion qualities

TEXAMINE K

a permanent softener and desizing agent for processing grey goods in the kier eliminating the customary grey desizing.

MAY WE SERVE YOU?

A FULL LINE OF DYESTUFFS
CONVERTED STARCHES
WATERPROOFING AGENTS
SULPHONATED OILS
FINISHING COMPOUNDS
PENETRATORS
DETERGENTS AND OTHER
CHEMICAL SPECIALTIES
send for detailed information

COMMONWEALTH COLOR & CHEMICAL CO.

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RAPIDASE

THE STANDARD DE-SIZING AGENT

for cottons, rayons and mixed goods

For your de-sizing problems — our technical men are at your service . . . Write or 'phone.

WALLERSTEIN COMPANY, INC.
180 MADISON AVENUE, NEW YORK

STANDARD SILICATES

YOUR BEST CHOICE FOR:

- √ Peroxide Bleaching
- √ Kier-Boiling
- √ Soaping Prints
- √ Scouring Rayons
- √ Scouring Yarns
- √ Silk Weighting
- √ Water Treatment

ALKALI

DIAMOND ALKALI COMPANY
STANDARD SILICATE DIVISION
GENERAL OFFICES: PITTSBURGH, PENNSYLVANIA
Plants at CINCINNATI · JERSEY CITY · LOCKPORT, N. Y.
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ROME SOAP MFG. CO.

WRITE US FOR SAMPLES AND QUOTATIONS

MANUFACTURERS OF
Textile, Laundry
and
Special Soaps
ROME, N. Y.

DRAPER SOAPS are Dependable Soaps. For a great many years the J. O. Draper Company has been supplying the textile industry with better soaps for finishing processes.

DEPENDABLE

The industry has come to realize that the phrase "*Depend On Draper*" is not just an advertising slogan, but a fact that is of real help in the production of better cloth.

Write for literature and prices.

J. O. DRAPER CO.
PAWTUCKET, R. I.
"Low Prices Never Bought Quality"

ALL STEEL
ECONOMY BALING PRESSES
ALL SIZES FOR ALL PURPOSES
LARGEST LINE BUILT IN U.S.A.

ECONOMY BALER CO., DEPT. J ANN ARBOR, MICH., U.S.A.

REPRESENTATIVES:
New York Office: 100 Gold St.
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Terrell Machine Co., 1200 No. Church St., Charlotte, N. C.
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Other Sales and Service Branches in most Important Cities.

SEARCHLIGHT SECTION

EMPLOYMENT • BUSINESS • OPPORTUNITIES • EQUIPMENT—USED or RESALE

UNDISPLAYED RATE:

10 cents a word, minimum charge $2.00.

(See ¶ on Box Numbers.)

POSITIONS WANTED (full or part-time salaried employment only), ½ above rates.

PROPOSALS, 50 cents a line an insertion.

INFORMATION:

BOX NUMBERS in care of any of our New York, Chicago or San Francisco offices count 10 words additional in undisplayed ads.

DISCOUNT of 10% if full payment is made in advance for four consecutive insertions of undisplayed ads (not including proposals).

DISPLAYED—RATE PER INCH:

The advertising rate is $5.75 per inch for all advertising appearing on other than a contract basis. Contract rates quoted on request.

AN ADVERTISING INCH is measured ⅞ inch vertically on one column, 3 columns—30 inches—to a page. T.W.

NEW ADVERTISEMENTS received by 10 A. M. November 2nd will appear in the November issue, subject to limitations of space available.

Over Forty Years of Dependable and Confidential EMPLOYMENT SERVICE

for textile mills, converters and selling houses requiring managers, superintendents, stylers, designers, salesmen, overseers, second hands, fixers, etc. 'Phone, wire or write us your personnel requirements.

CHARLES P. RAYMOND SERVICE, Inc.

Phone: Liberty 6547 **294 Washington Street, Boston, Mass.**

POSITIONS VACANT

(See also "Selling Opportunities" Offered)

WANTED—By large organization, man or woman familiar with leading companies in textile industry, and able to undertake analytical work. Must be able to write clearly and concisely for publication. Reply should outline applicant's age, education, experience, number dependents and salary desired. P-192, Textile World, 330 W. 42nd St., New York, N. Y.

FINISHER-ASSISTANT FOREMAN used to Tenter Frames—Middle aged man preferred. Liberty Lace and Netting Works, 900 East 229th Street, N. Y. C.

WHEN *Answering Advertisements*

PLEASE *do not send original letters, certificates or photographs. We cannot be responsible for their return. Please send photostat or carbon copies.*

POSITIONS VACANT

EXPERIENCED MAN able to take charge of narrow fabric department. Must understand all construction. Write full details in first letter. P-193, Textile World, 330 W. 42nd St., New York, N. Y.

POSITIONS WANTED

MANAGER-SUPERINTENDENT: of Rayon Cotton or silk — better qualities of Dress fabrics, fancy stripes and Jacquard, Tapestry, Drapery, and furniture. Technician good mechanic. Best of references. PW-187, Textile World, 330 W. 42nd St., New York, N. Y.

PRACTICAL MILL MAN. Scotch-Irish descent, 46 years of age, desires position as Superintendent. Expert Draper man on cams and fancies. Cottons, Silks, Rayon and Nylon. Thoroughly understand designing, costs and production in all departments. If you are on defense work, can manufacture your fabrics to meet all Government specifications. At present employed in a large New England mill as Overseer of Weaving. Will go anywhere. Can furnish best of references. PW-194, Textile World, 330 W. 42nd St., New York, N. Y.

TECHNICAL-EXECUTIVE. Capable of planning and directing the efforts of others, desires responsible position having large scope. Textile graduate; practical designer narrow and wide fabrics; experience on cotton, wool and synthetics; interested in research. Useful contact man between cost, sales, and manufacturing departments; good student of conditions as found; over draft age; now employed. PW-196, Textile World, 330 W. 42nd St., New York, N. Y.

EXPERIENCED OVERSEER of finishing, on knit goods, all wool and cotton back overcoatings, men's and women's wear. Experienced in finishing mohair and alpaca fabrics. Capable of supervising every operation of finishing. PW-198, Textile World, 330 W. 42nd St., New York, N. Y.

FOR SALE

2—Whitin Quillers for Braider Bobbins 378 Spindles each.

2—Foster make tube winders, 6" package. 40 spindles each.

7—Ball Winders. Franklin Mach. Co. make, 8" Gauge or space between spindles.

10—Ball Winders. Silver & Gay make. 5" Gauge.

7—Rubber Thread Covering machines. 40 sp. each.

1—Atwood make, 12 spindle spooler, for putting threads onto sewing thread spools. Automatic.

1—Atwood 8 spindle Automatic spooler for threads.

1500—BRAIDING machines, for making Parachute Cords, Shoe Laces, Military Cords, Military Braids, Tapes, etc.

4—Brownell make, Flyer Twisters. 36 spindles to each machine. Taking a 5" diameter spool by 6" inside traverse.

4000 Hard compressed fibre spools 5" head 6" inside.

80 Universal #50 tube and cone winders.

ROBERT SOLOMON & CO., INC.

162 Greene Street **New York City**

SELLING OPPORTUNITIES

OFFERED—WANTED

Selling Agencies—Sales Executives Salesman—Additional Lines

OPPORTUNITIES OFFERED

TEXTILE SALESMAN for southern territory. Must have experience and satisfactory sales record selling Textile Finishes, Oils, Sizings, etc. Reply giving complete experience. SW-195, Textile World, 330 W. 42nd St., New York, N. Y.

SALESMEN. Full time or those interested in adding a complete line of maintenance products backed by more than 50 years of experience. Sold to industrial plants and other large users. High rate of commission. Protected territory. Repeat orders. Volume Business. Give complete details by mail in confidence. The Excelsior Varnish Works, Inc., Cleveland, Ohio, established 1890.

WANTED

WANT TO BUY

3—25,000 gal. Cap. or Larger Steel Water Tanks on Steel Towers

3—750 or 1000 GPM Underwriters Fire Pumps

RUSSELL STANHOPE

305 Madison Ave. **New York, N. Y.**

WANTED

INTERESTED IN A SET OF 2 OR 3—84" OR LARGER QUETCH ROLLS

W-175, Textile World
330 W. 42nd St., New York City

WANTED

Centrifugal pumps — any quantity — any size—with or without motors.
Vacuum pumps (all makes), slitters and winders.

W-197, Textile World
330 W. 42nd St., New York City

PROFESSIONAL SERVICES

LANCASTER, ALLWINE & ROMMEL

Interesting booklet concerning Inventions, Patents, Trade-Marks and Copyrights, together with Schedule of Government and Attorney's Fees, sent without obligation. Simply ask for "booklet and schedule."

Established 1915

Patents & Trade-Marks

Suite 448, 815—15th St., N. W. Washington, D. C.

SEARCHLIGHT SECTION

WE OFFER FOR SALE

New SILVER KING 12" x 36" Vulcanized Fibre Roving Cans in quantity lots.

33—DRAPER TWISTERS, 200 spindles each, 3" gauge, 2¼" ring, tape driven; equipped with separators—1922-1924 model. Excellent condition.

A. F. FYANS
Textile Machinery
P. O. Box 454 Fall River, Mass.

FOR SALE

LATE TYPE

No. 5—Mayox Skein Dyeing Machine
Two—22 Arms
Two—10 Arms
(Stainless Steel, perfect condition)

One—Tenter Frame 52 Inches Wide—20 Feet Long. Complete with Batcher and 20 Feet of Rebuilt Chain. Textile Made.

JOHN WRIGHTSON
201 Drexel Bldg. Philadelphia, Pa.
List Your Surplus Dyeing and Finishing Machines With Us

HOSIERY EQUIPMENT

USED OR REBUILT
Knitters: Ribbers: Loopers:
Seamers: Boarding: Dyeing
Full Fashioned Hosiery Machines
Special attention to export trade

C. M. FRENCH
Commercial Trust Bldg., 15th & Market St.
Cable: Frenchtex-Philadelphia Philadelphia, Pa.

FOR SALE

250—**Rubber covered rolls**—ranging from 3" diameter up to 18" diameter x 60" face to 120" face. These rolls are brand-new.
100—**Bronze, brass and gun metal rolls**—various sizes.
100—**Centrifugal pumps — bronze, iron, bronze fitted, etc.**—motor and belt driven — various g.p.m. — heads — pressures.
All items noted above located at our Newark, N. J., warehouse, available for prompt shipment.
Write for our catalog No. 52, showing hundreds of other interesting items. Also communicate with us regarding your particular requirements.

J. J. ROSS COMPANY,
250 Frelinghuysen Ave., Newark, N. J.

FOR SALE

1 Saco-Lowell English Shoddy Picker

with adjustable base and condenser, capacity 500 to 1800 pounds for 8 hours depending on the type of stock. New 1926, used very little. Price on application.

ROCK RIVER WOOLEN MILLS
JANESVILLE, WISCONSIN

EMBOSSING MACHINE

One heavy duty two-roll type roller bearing John Waldron Embossing Machine for 60" wide goods, with inking attachment.

Never been used. Reasonably priced.

BEHR-MANNING CORPORATION
Purchasing Dept.
TROY, N. Y.

FOR SALE

CARD ROOM EQUIPMENT FOR COTTON
LMS and S-P 45" cotton cards

Regular 45" pickers. Some 12 x 6 slubbers and other equipment. One U. S. 2 cyl. air compressor with 6 x 3 tank and 5 H.P. 220 volt motor. **Let us have your inquiry.**

FS-191, Textile World
330 West 42nd St., New York City

NORMAN M. McDOWELL
ASSOCIATES

342 E. 142 St. ***REBUILT & USED*** **Bronx, N. Y.**

BUY WITH CONFIDENCE

DYEING & FINISHING

1—**WOOLEN WASHER** 72", 6 string machine.
1—**WOOLEN OPEN PIECE GOODS WASHER**, 4 sets Squeeze Rolls 66" face.
1—**TENTER FRAME** 60' x 52" width, steam drum Batcher.
1—**TACKING MACHINE** (Birch) complete.
1—**TUBER** 50" complete.
1—**STEAMING & FINISHING MACHINE**, Crab Rollers.
9—**SHEARS**, Single to 8 Blade Units, 40" to 88".
3—**SQUEEZE SETS** 42" to 66" widths.
1—**RAW STOCK WOOL SCOURING MACHINE.**
2—**ROTARY STEAM PRESSES**, 66" Double Beds.
3—Quetches 60" width, 2 & 3 roll units.
1—**PADDER**, 3 rubber rolls, 65" face.
4—**MANGLES** 42" to 66" width, 2 roll units.
1—**NAPPER**, 90", 14 roll, Complete, S.A.
2—**NAPPERS** (Knit-goods) 90", 20 rolls, Complete.
2—**NAPPERS (Woolen)** D.A. 80" & 84" 20 & 36 roll machines, Complete.
3—**NAPPERS** (Cotton) 80" wide, 20 roll Complete.
4—**FULLING MILLS** Double compartment.
2—**FOLDERS** 42" & 46" widths.
1—**EXTRACTOR** (Vacuum) 60", PUMP & Mtrs.
3—**EXTRACTORS** (Hydro) 42" to 48" mtr. driven.
2—**DOUBLERS** for 66" goods.
3—**DRY HEADS** (Johnston) with Baskets.
1—**SEMI-DECATUR** 72" X 12" pump & mtr.
1—**CALENDER** (Embossing) 43 " Face, 3 designs, mtr. drive.
1—**CALENDER** (Cotton) 5 bowl, 47" Face.
1—**CALENDER** (Silk) 3 Bowl, 45" Face.
1—**P&S SKEIN DRYER**, Horizontal Roller Chain.
2—**DRYERS** (Raw Stock).
1—**BATCHER**, single roll 44" wide.

SPINNING, CARDING & WEAVING

4—**TAPE CONDENSERS** 48" and 60" taking off 60 and 144 ends.
1—**D&F CONE DUSTER**, 1500-lb. capacity.
110—Draper Model E Looms 45½" R.S.
75—Draper Model K Looms 44" Cloth width.

We carry a large stock of spare parts, i.e., BRISTLE BRUSHES, ROLLERS, SQUEEZE ROLLS, EXPANDER ROLLS in all SIZES and WIDTHS.

Only a few of the many units available. Send for our complete catalog.
LIST YOUR SURPLUS EQUIPMENT WITH US.

FOR SALE

- **Printing Machines**
- **Dry Cans**
- **Calenders**
- **Quetches**
- **Extractors**
- **Tendering Frames**
- **Beamers & Tubers**
- **Doubling & Folding**

Looms—Warpers—Winders—#90 & #50 Universals
Ribbon Machinery & Equipment

A. & M. BLANK CO., INC.
49 STATE STREET **PATERSON, N. J.**
Sherwood 2-1367 **Lambert 3-9523-0275**

FOR SALE

2—Mycock Brass Bar Expanders for 50" goods.
1—200 Reeves Drive, sleeve bearings.
1—40" Parkhurst Burr Picker.
1—V.V. 60" Direct top Motor driven Extractor, stainless steel basket, safety covers, 220 volt motor.
1—36" Davis & Furber 12 Bar Picker or Shredder.

BTS

Bobbins—Spools—Supplies

Sole Agents for Smith Yarn Twist Tester

BAY STATE TEXTILE CO.
220 HARTWELL STREET • FALL RIVER, MASS.

FOR SALE

8—Kitson Hopper Feeders, 34" & 38", high and low back.
1—Kitson Feed Table.
3—Collins tape drive Fancy Twisters, 184 spindles each, 3½" gauge, 2½" ring.
2—H. & B. band drive Twisters, 3¼" gauge, 2¼" ring, 180 spindles each.
2—H. & B. band drive Twisters, 5" gauge, 4" ring, 108 spindles each.
1—Hopedale Warper, rebuilt with new cylinder 54" wide to take 26" beam heads, electric warp stop motion.
2—Whitin Reels, 48 spindles each, make 54" skein.
1—Carpenter Reel, 50 spindles, makes 48" skein.
1—Saco-Lowell 52" Beamer, new 1937.
2—Curtis & Marble 4 blade Shears, 48".
1—Curtis & Marble 100" Flat Fold machine, 1 yard fold with air compressor & receiving tank.
1—Curtis & Marble 40" Cloth Folder, 1¼ yard fold.
2—Termaco Roving Bobbin Strippers.
1—Utsman Filling Bobbin Stripper.
1—Dronsfield Ickerin Grinder.
350—Waltham two-shift Pick Counters.
20,000—Saco-Lowell 10x5 Bobbins.
30,000—Saco-Lowell 9x4½ Bobbins.
20,000—Saco-Lowell band drive medium gravity long base spinning spindles with base & bolster.

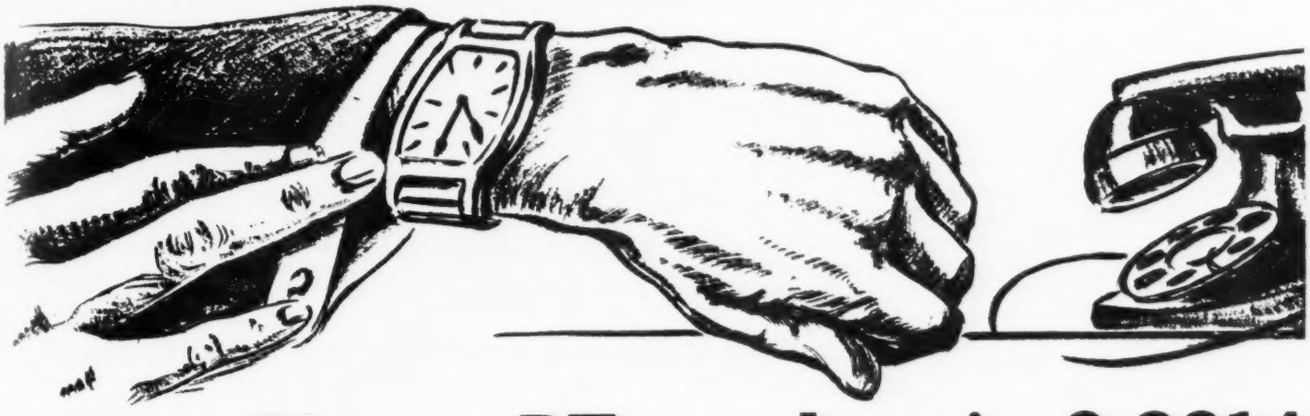
GEORGE F. LANGEVIN
95 BRIDGE STREET **LOWELL, MASS.**

GAINES TEXTILE MACHINERY CO.

Dealers in Rebuilt and Guaranteed Yarn Winding and Spinning Machinery

141-45 West 17th Street **New York, N. Y.**

Save time when you need MILL MACHINERY—



Phone: PEnnsylvania 6-8014

THE only extra cost to you will be the telephone toll charge . . . and you can't compare that with the cost of slowing down production, tieing up part or all of your mill, delaying deliveries—and loss of needed merchandise not produced!

If we have the wanted equipment we will ship at once—or find it . . . if it is to be found anywhere in the industry. Knowing where good used textile equipment can be found—and finding it—is a full-time job. Our specialty for the past 16 years, it is our small contribution to the total war effort.

We can save you TIME—now, when TIME is AMMUNITION . . . not only the time required to locate the equipment but the time lost when equipment fails to produce—because we never permit a piece of equipment to be shipped unless we are sure it is in good operating condition.

So don't delay, when you need good textile machinery—pick up your telephone and call: PEnnsylvania 6-8014.

Available for AT ONCE Shipment

3—46" to 52" Van Vlaanderen Button Breakers
1—42" King & Gerber 3 roll Calender with 3/60/220 v. motor
1—48" Farmer 6-bowl Calender
1—50" Van Vlaanderen 3-roll Calender
2—sets 3-cyl. Furbush Woolen Cards 48"x60" camel back feeds Barker condensers
8—Whitin D-2 Combers
3—Whitin C Combers
1—72" Gessner 2 Cyl. Semi-Decating Mtr. Dr.
9—36" to 48" Windle Doublers
1—60" Van Vlaanderen Doubling, Tubing & Measuring Mche.
1—set of 10 Textiles 23"x60" Dry Cans, vert. fr.
1—set 23 Lincoln 88" Face Copper Dry Cans, Horizontal Frames
60 yd. P.&S. 100" Return Tenter dryer
1—150 yd. Kenyon Return Tenter Dryer 65" opening
2—84" Proctor & Schwartz Loop Dryer
1—Hurricane Loop Dryer, 7'8" wide x 34'2½" long x 6'3½" high, inside dimensions
3—Smith Drum Paddle Dyeing Machines with motors, 1-25 lb., 1-50 lb., 1-100 lb.
1—56 Arm Mayoux Skein Dyeing Machine driven with monel and copper tanks
1—24" Empire Copper Basket Extractor, belt dr.
1—36" Empire Copper Basket Extractor Belt Dr.
1—40" Tolhurst Copper Basket Extractor 3/60/220 v. motor. Extra Basket.
2—48" Tolhurst Copper Basket Extractors, belt dr.
10—40" to 46" Elliott & Hall Folders
1—Schultz Fulling Mills
1—60" wide, 3-cyl. 30" dia. Garnett, automatic
9—Bahnson Type 7 Humidifiers
2—54" and 64" Inspecting & Winding Machines
35—S&W Mod. K Knitters, 48 gge. 3" to 3½" 160 to 220 N. with attachments
30—42" Draper Model K Auto. Looms, 20 h. mtr. dr.
21—56" C & K 4x4 Box Looms with 600 hook Jacq. Hds. belt driven
18—56" Eastwood 1x1 Looms with 600 hook Jacq. Hds. belt driven
30—69" Draper Mod. D Auto Duck Looms, mtr. dr.
12—72" C & K (4x4) Tapestry Looms with 1300 Jacq. mtr. dr.
30—82" C & K 4x1 Auto Looms, Roller Tops, motor driven
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100—92" Draper Model L auto Looms, belt dr.
4—120" C & K (4x4) 25 harness Looms
2—60" P & W Selvage Trade Markers
1—24 Pole Smith Drum Skein Mercerizing Mach.
1—80 inch Woonsocket 24 roll D. A. Napper
1—65" Van Vlaanderen Palmer
1—50" Morrison Triune Finishing Mach. Quetch Palmer Tenter
1—36" D & F Mixing Picker with Bramwell Weed & Spencer Oiler
1—48" C & M Mixing Picker
1—65" Voelker Rotary Cloth Press
1—42" Rice, Barton & Fales, 7-color Prtg. Mach., Dry Cans, etc.
1—43" Rice, Barton & Fales 8 color Prtg. Mach., Dry Cans, etc.
1—54" Textile Mach. Co. 8 color Prtg. Mach. complete with 2—G.E., 35 HP mtrs.
1—52" Waldron 12 color Printing Mach., complete with Westge slip ring, motor, 50 HP.
1—Nash No. 3 Hytor Pump, V-belt motor driven 3/60/220 v. with 60-brass vacuum tube
1—66" Johnson 5 cyl. Slasher
350—W & J Tenter clips, B. O. brass face
4—156 sp. Saco-Lowell 7x3½ Speeders
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71—256 sp. Fales & Jenks 2¾" and 3" gge Spinners. Texrope drive
1—Pair of 60" Squeeze Rolls
1—40 ft. W. & J. Stainless Clip Tenter with housing. 55 inch opening.
10—96 Spindle Draper 4" Ring, 5" Gage, Tape Drive Twisters, M.D.
2—28 Sp. F&J Novelty Twisters with mtrs.
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1—108 Sp. Saco Lowell 4½" Ring High Speed 5½" Gauge Twister 7-ply tape drive, belt driven
2—120 Sp. H & B 4" Ring 5" Gauge Twisters 4-ply band drive, belt driven
1—132 Sp. Saco Lowell, high speed 3½" Ring, 4½ Gauge Twister, 7-ply tape drive, 3-phase 3/60/220 v., motor (1924)
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14—Collins Double Feed Roll Novelty Yarn Twisters: 7—160 sp.; 6—180 sp.; 1—192 sp.
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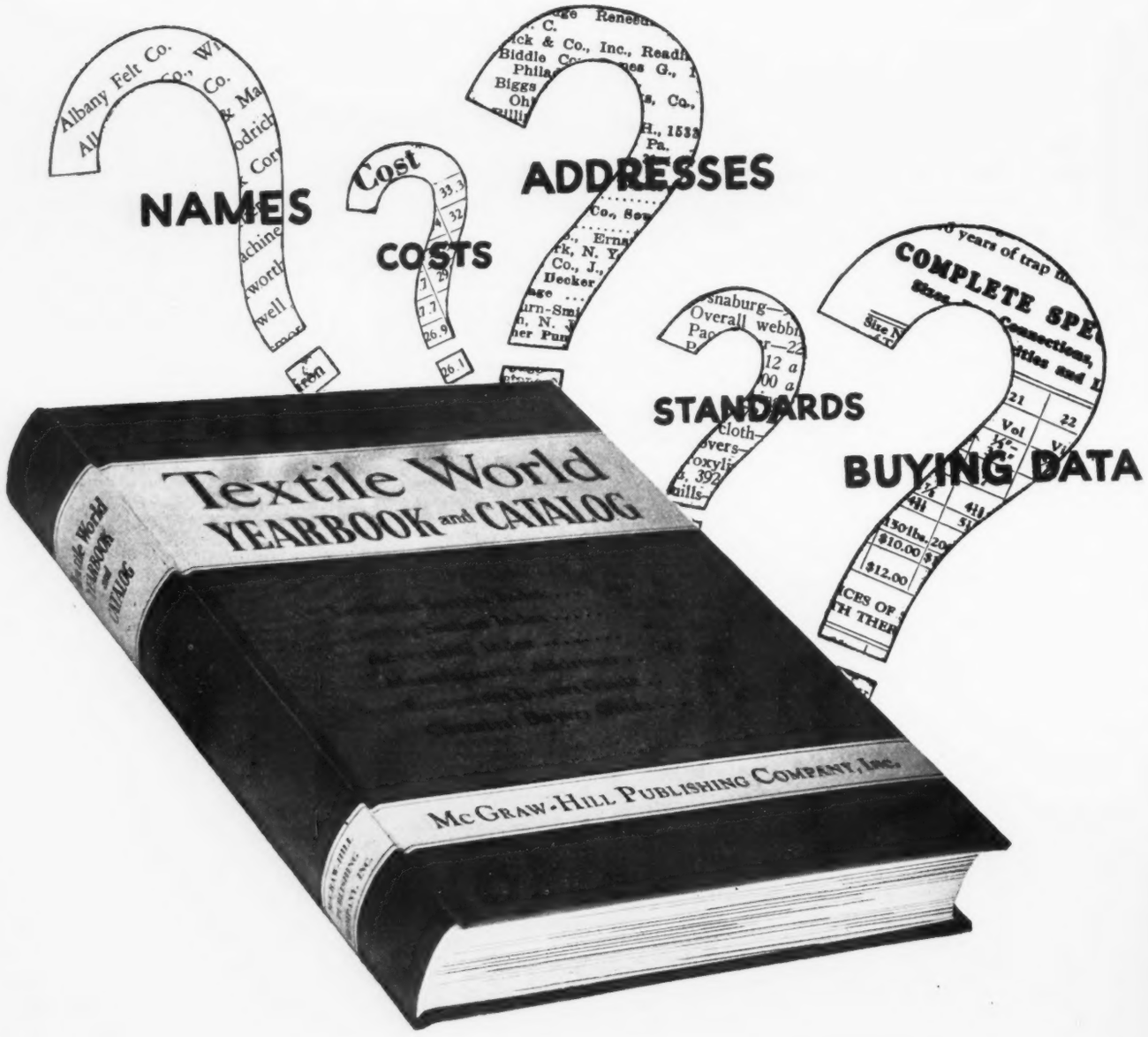

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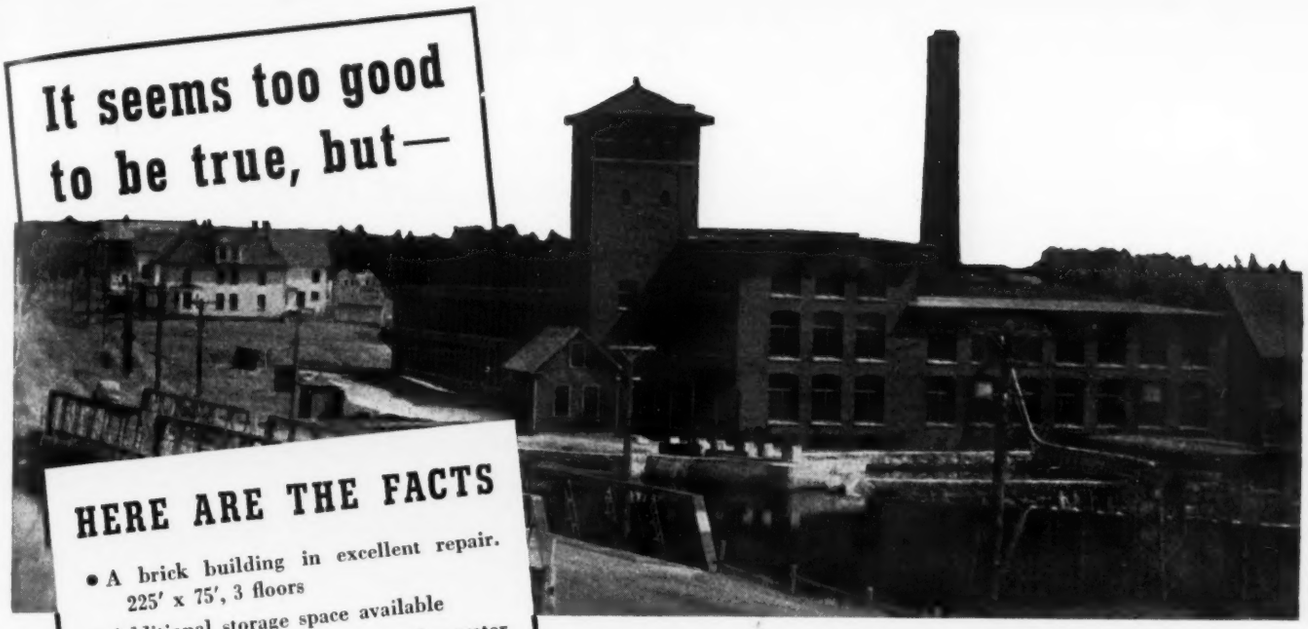

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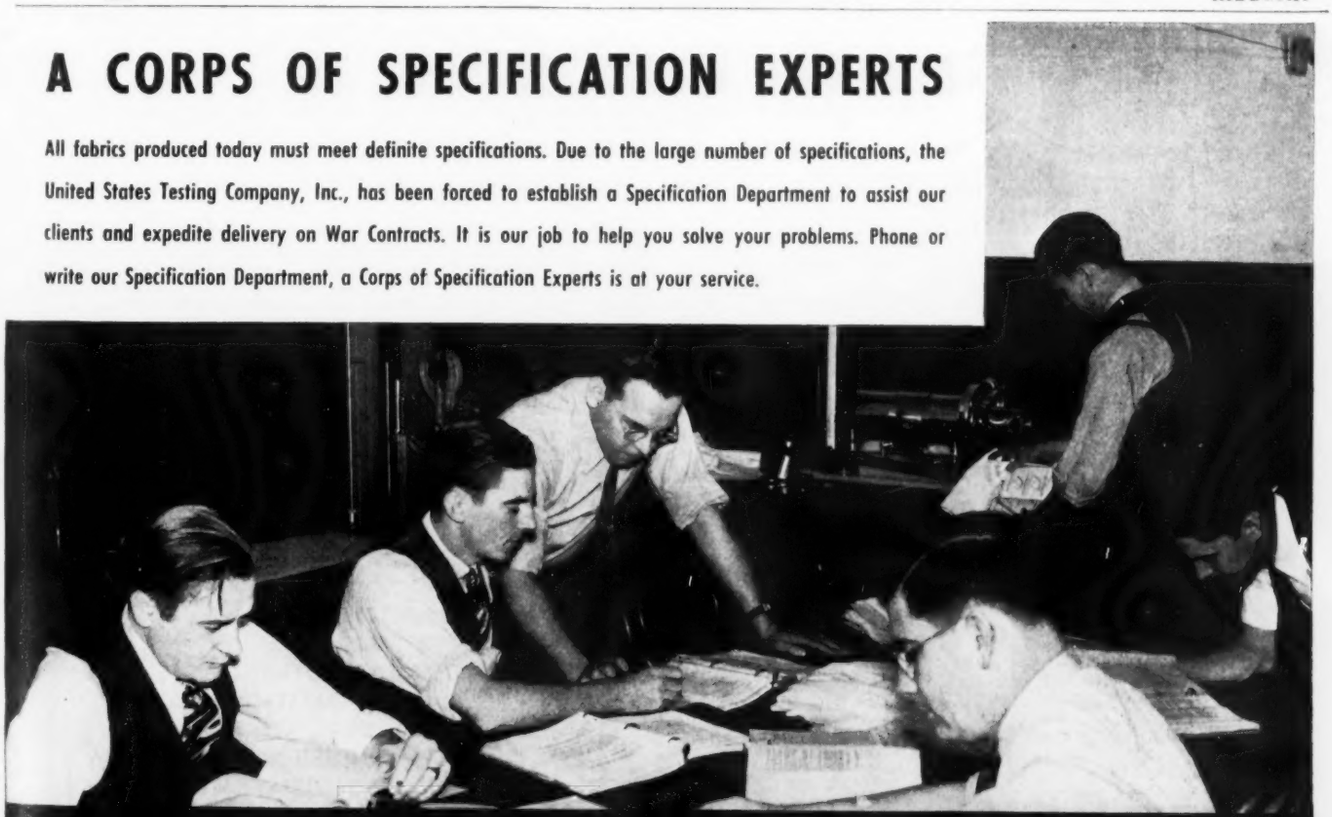

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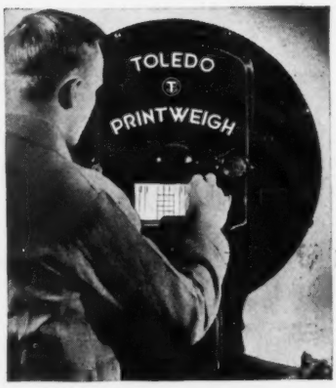

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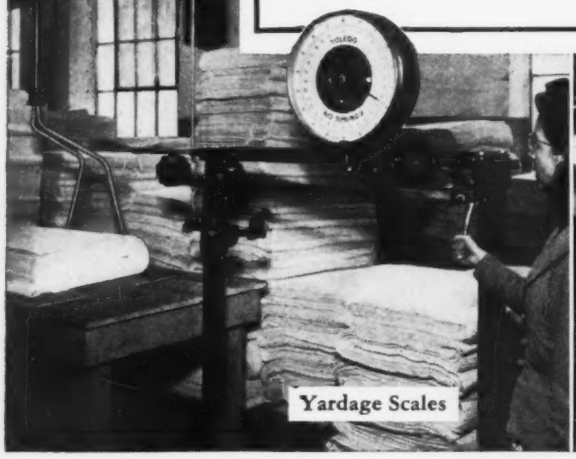
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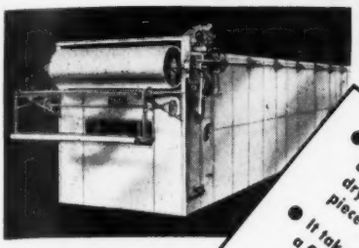

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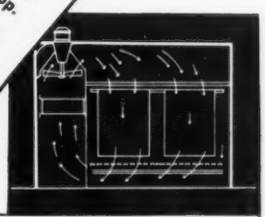

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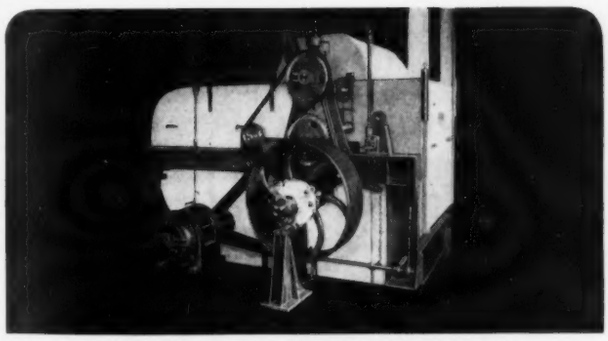

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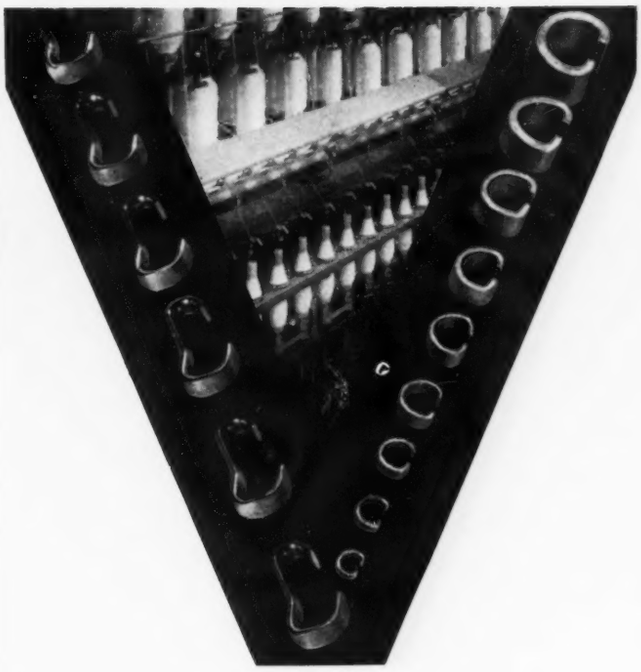

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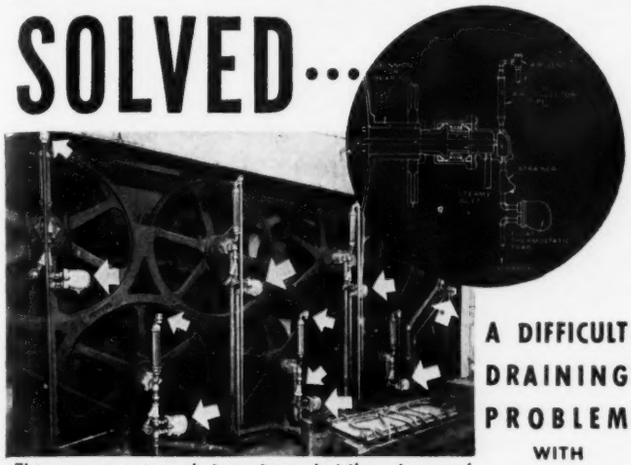

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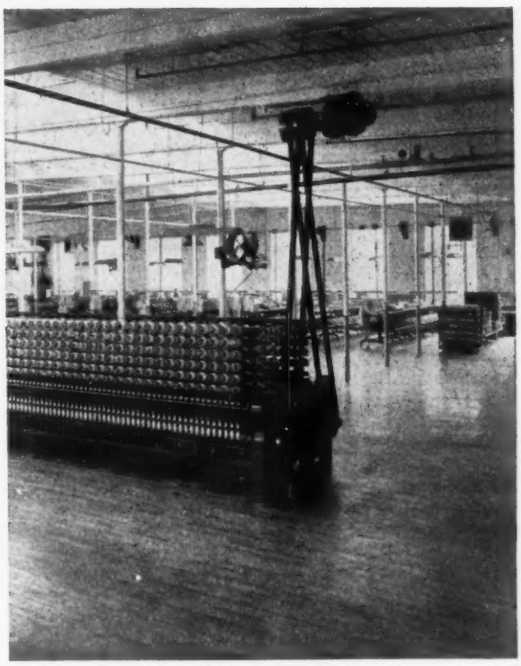

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Daily News Record

NEW YORK, N. Y., THURSDAY, SEPTEMBER 3, 1942

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